

**APPENDIX G BELL ROCK WETLAND INVASIVE SPECIES
CONTROL PLAN (WISCP)**

October 02, 2018

NEW ENGLAND POWER COMPANY
d/b/a NATIONAL GRID

Bell Rock Substation Rebuild Project

Wetland Invasive Species Control Plan

PROJECT NUMBER:
146770

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*PREPARED FOR: NEW ENGLAND POWER COMPANY
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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
FERC	Federal Energy Regulatory Commission
IVM	Integrated Vegetation Management
MassDEP	Massachusetts Department of Environmental Protection
NEP	New England Power Company d/b/a National Grid
NERC	North American Electric Reliability Corporation
NESC	National Electrical Safety Code
NRCS	Natural Resources Conservation Service
POWER	POWER Engineers, Inc.
Project	NEP's Bell Rock Substation Rebuild Project
ROW	right-of-way
WISCP	Wetland Invasive Species Control Plan

1.0 INTRODUCTION

The New England Power Company d/b/a National Grid (NEP) is planning substation upgrades at the existing Bell Rock Substation located at 181 Bell Rock Road in the city of Fall River. The Bell Rock Substation lies within NEP's existing 2.75 acre substation easement. NSTAR Electric Company d/b/a Eversource Energy (Eversource) holds a 1.06 acre easement adjacent (south) to the NEP easement. All substation improvements will be made within the existing substation and transmission line right-of-way (ROW) easements. The purpose of the Bell Rock Substation Rebuild Project (Project) is to improve the reliability and operability of the substation, and to expand the substation to accommodate new equipment. The Project involves the rebuild and expansion of certain equipment and facilities at the substation, and will primarily include multiple elements, as described below (refer to Figure 2-2 and 2-3 in Appendix A):

- 1) Expand the existing substation footprint by approximately 0.51 acres (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 115 kilovolt (kV) transmission line to bypass the existing substation to the south for the purposes of facilitating the rebuild of the substation; and
- 7) Complete additional minor transmission line reconfigurations to connect the lines back into the rebuilt substation.

This Wetland Invasive Species Control Plan (WISCP) addresses measures NEP will implement to minimize the spread and/or introduction of invasive species in wetlands in the Project Area during construction. 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 (NRCS 2018a). Invasive species are highly adaptable and have few natural control agents in the environment into which they have been introduced, making them very prolific plant species. Invasive species may also be referred to as nuisance, undesirable, noxious, or exotic species.

The WISCP identifies the invasive wetland plant species that are of concern in the Project Area ("Project Area" is identified as all wetlands surveyed within the limit of work activities associated with the rebuild and expansion of the Bell Rock Substation, as well as historical access to the transmission line facilities). However, not all of the wetlands within the Project Area will be impacted, and the wetlands that will be disturbed as a result of Project construction activities could be more susceptible to colonization by invasive species. In addition, the movement of construction equipment and materials through wetlands that presently contain invasive species could promote the spread of invasive species to nearby, un-infested wetlands.

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

- Inventory the invasive plant species known to occur in the wetlands in the Project Area that were identified during the wetland delineations conducted for the Project.

- As a baseline, identify the wetlands in the Project Area where 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.

Overall, the goal of the WISCP is to protect the ecological conditions of wetlands within the Project Area, specifically focusing on minimizing the spread of invasive species within affected wetlands and avoiding the introduction of invasive species to areas where they are not currently present. It should be noted that wetlands containing invasive plants are located outside of the Project Area and are thereby also another potential source unrelated to the Project. Therefore, attempting to eradicate invasive species from portions of such wetlands within the proposed work areas is unlikely to be successful and is not considered a practical goal of this WISCP.

2.0 OVERVIEW OF PROJECT ACTIVITIES

The construction of the Project will involve a series of sequential activities. During the Project design process, NEP implemented measures to avoid and minimize the disturbance to wetland vegetation or soils. However, unavoidable construction activities with the potential to influence the spread of invasive plant species in wetlands include:

- Vegetation clearing within wetlands for the construction and subsequent operation and maintenance of the Bell Rock Substation and associated minor transmission line work.
- Temporary improvements to existing access roads or the development of new access roads (temporary) across wetlands.
- Use of temporary access routes across wetlands to facilitate the movement of vegetation clearing equipment.
- Installation of temporary work pads in wetlands.
- Excavation and filling within wetlands L1A and M1.
- Removal of temporary fills (e.g., access roads and work pads) and the restoration of affected wetlands.
- Use of a historical access route to the transmission line facilities off Blossom Road.

3.0 PROJECT WETLAND RESOURCES

As part of the Project planning process, POWER Engineers, Inc. (POWER) conducted field investigations (in November 2015, September 2017, and May 2018) to delineate jurisdictional wetlands within the Project Area. As a result of these field studies, a total of six wetlands were identified. As part of the wetland resource delineations, vegetation types and dominant species were identified. Portions of all of these wetlands are located within presently managed areas of NEP's existing utility rights-of-way (ROWS), and wetlands M2, L2, and L3 are recorded to contain invasive species.

3.1 Invasive Species of Concern in Wetlands

The federal government and the state of Massachusetts maintain information regarding invasive wetland plants. For example, MassDEP maintains a list of invasive species (Massachusetts Invasive Plant Advisory Group 2005). Similarly, the United States Department of Agriculture, Natural Resource Conservation Service (NRCS) also maintains a list of noxious plants by state (NRCS 2018b).

Based on a review of these lists and the characteristics of the Project Area (as determined by field investigations), there is one invasive species located in wetland M2. This invasive species is glossy false buckthorn (*Frangula alnus*). The glossy false buckthorn is sparse with less than five percent of coverage and is in a localized patch in wetland M2.

Wetland L2 contains the invasive emergent species which include common reed (*Phragmites australis*) and reed canary grass (*Phalaris arundinacea*). Both species occurred in localized patches with a moderate abundance (5-25 percent of coverage) for the entire wetland. The shrub glossy false buckthorn has less than 5 percent of coverage in wetland L2.

Wetland L3 also contains the invasive emergent common reed, occurring in localized patches with a moderate abundance (5-25 percent of coverage).

Where there is an ample seed stock or a system of rhizomes of these invasive species, communities of these plants will tend to be the first “pioneer” species to populate and colonize areas that have been disturbed and left exposed (New York State Department of Transportation 2018).

4.0 REVIEW OF EXISTING VEGETATION MANAGEMENT PROGRAMS AND HABITAT BENEFITS

4.1 ROW Vegetation Management Requirements

The Project will be located within existing NEP easements, portions of which are presently managed according to national and regional standards and regulations for electric transmission line operation, including required clearances between conductors and vegetation and around the perimeter of electric substations. These standards and regulations include but are not limited to:

- Federal Energy Regulatory Commission (FERC) standards including North American Electric Reliability Corporation (NERC) Standard FAC-003-1, Commissioner Order 693, FAC-003-2 (effective July 1, 2014).
- NERC Standard FAC-003-1 – Transmission Vegetation Management Program, effective date of April 7, 2006.
- National Electrical Safety Code (NESC) Section 21, Part 2, Rule 218 and the American National Standards Institute (ANSI) pruning standards, A300, Part 1, Part 7, and Z-133.

NEP has established plans and procedures for applying an Integrated Vegetation Management (IVM) approach to manage vegetation within their existing utility corridors and around electric substations in accordance with these standards. IVM is a system of managing plant communities in which managers set objectives; identify compatible and incompatible vegetation; consider action thresholds; and then evaluate, select and implement the most appropriate control methods to achieve those objectives. IVM provides NEP with a proven range of techniques to manage ROW vegetation to conform to federal and

regional standards for transmission line operation, accommodate the varying interests of stakeholders along the ROW, minimize environmental effects, and balance cost considerations. NEP uses a combination of mechanical and chemical controls (i.e., mowing, hand cutting and select herbicide application) to target vegetation that may impact the operation and safety of the transmission lines. The goal is to manage the upland and wetland vegetation within the ROWs using natural vegetative control. Natural vegetative control is the process of working with the cycles of plant succession and interspecies competition to facilitate the spread and stabilization of native, early successional plant communities that discourage the establishment of taller woody vegetation (Bramble et al. 1990).

Therefore, NEP targets undesirable vegetation such as trees and limbs, tall growing shrubs, vegetation growing around stations, guy wires, access roads, gates, and anywhere vegetation impedes access to the ROW. Because of this IVM approach, ROWs are one of the primary remaining early successional ecological communities in New England. These dense, low growing plant communities can help discourage the establishment of undesirable vegetation, do not hinder access to the ROWs, and do not generally interfere with the operation and maintenance of the transmission lines and station facilities.

Plant species that are generally encouraged on the ROWs include herbaceous and shrub species and other vegetation that has a mature height of less than approximately 12 feet. As a result of these ROW vegetation management practices, most of the wetland habitats within the managed portions of the ROWs consist of shrub or emergent marsh.

4.2 Habitat Benefits of ROW Management

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 ROWs 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 ROWs. The early successional landscape maintained within the ROWs, however, is not by nature stable; it is instead the sustained result of the IVM program NEP established in the late 1980s. The removal of the forested areas and subsequent maintenance of the ROW outside of the footprint of the Bell Rock Substation yard will create a change in habitat type, from forested to scrub-shrub or emergent wetland.

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 ROWs (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 ROWs, 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 ROWs 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 ROWs than all other sources of this habitat combined (Confer et al. 2004).

Other studies also have indicated that this change of forested areas into scrub-shrub habitats 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). The establishment of low-growing species, i.e., grasses and forbs, is also a

form of biological control that reduces 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. In this regard, some invasive plant communities have been shown to provide some beneficial effects such as breeding bird nesting habitat, cover for animals traversing the ROWs, food sources (fruit-bearing plants), buffers to sensitive areas (such as along riparian zones) and, in some instances, serve as a deterrent to unwarranted access (e.g., all-terrain vehicle use) along the ROWs due to the dense thickets and thorn-producing shrubs that may colonize certain areas. The eradication of invasive plants could, therefore, eliminate some of the beneficial uses on the ROWs. In addition, continued regular treatment of invasive plants could inadvertently result in minimizing wildlife use of the ROWs through the frequency of human contact, removal of cover (albeit invasive), and reduction of food sources.

5.0 INVASIVE SPECIES MANAGEMENT IN WETLANDS DURING PROJECT CONSTRUCTION

During the construction of the Project, NEP will implement measures to control the spread of invasive plant communities during construction. The main objectives will be to:

- Perform construction activities so as to minimize the spread of invasive plant species within wetlands and from wetland-to-wetland along the ROWs.
- Restore wetlands affected by the Project promptly to limit the potential for invasive species to colonize disturbed soils.

Invasive species control requirements will be incorporated into construction contracts for the Project. Prior to construction, NEP will provide environmental training to the contractors, inspectors, and work crews responsible for implementing the WISCP. The training will include an overview of the WISCP, a review of the ROW and substation mapping, a discussion and listing of the target species, ways to identify invasive plants in the field, and presentation of the best management practices to be implemented during construction.

NEP's Project team will include an environmental monitor, who will perform site inspections and will oversee the contractors' compliance with applicable federal, state and local permit conditions, Project plans (including this WISCP) and NEP policies and procedures. Care and consideration will be taken during construction to prevent and/or reduce the introduction or the spread of invasive species. Wetland invasive species control efforts will be important throughout the construction of the Project, but the focus of these efforts will be during the following construction phases, which will involve work directly in wetlands and thus will have the greatest potential for construction equipment to come into contact with invasive species:

- Vegetation clearing.
- Placing and removing construction mats, and other temporary access roads and work pads.
- Moving equipment and vehicles through areas containing invasive species, such as for the installation, maintenance, and final removal of temporary soil erosion and sedimentation controls.

To control the spread of invasive plant species, NEP will require construction contractors to implement the procedures described below, as appropriate to the phase of the construction that each contract will perform:

- All construction equipment, vehicles, and materials (e.g., construction mats) must be clean and free of excess soil, debris, and vegetation before being mobilized to the Project Area. The vendor shall use the certification form provided as Appendix 8 in National Grid's Environmental Guidance Document EG-303 – Access, Maintenance and Construction Best Management Practices to document compliance.
- Mats or equivalent will be used in wetlands during clearing operations to minimize the spread of invasive species within a wetland by the clearing equipment itself.
- To minimize the potential for spreading invasive plant species from wetland-to-wetland, any equipment working in or traversing a wetland will be cleaned prior to relocating to another work site. Cleaning of vehicles and other equipment (including the tracks and tires) will involve removal of visible dirt, debris and vegetation through the use of brooms, shovels, and, if needed, compressed air.
- Construction mats or equivalent will be used at wetland crossings so construction vehicles that frequently travel along on-ROW access roads, such as pickups carrying personnel or material delivery trucks, can avoid direct wetland interaction.
- Construction mats will be cleaned prior to relocation to other work areas or wetlands. Cleaning of matting will involve dropping mats one on top of another to shake loose any sediment and debris. The matting will then be swept to remove loose soil and any plant material.
- Construction equipment and excavated soil material will be contained within the approved limits of work areas within the ROW; these limits of work will be defined on the Project plans.
- Soil excavated from wetlands or riparian areas containing a predominance of invasive plants will be stockpiled separately (to the extent there is sufficient work space) and contained within staked bales, silt fence or other approved soil erosion and sedimentation control device to minimize the potential of spreading these soils elsewhere on the ROWs.
- Final restoration of the Project Area will be performed in accordance with National Grid's Environmental Guidance Document EG-303 – Access, Maintenance and Construction Best Management Practices.

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