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CAPE COD COMMISSION

Cape Cod Commission Staff Report
Development of Regional Impact (DRI) Review

Date:	April 24, 2023
Project:	Martha's Vineyard Reliability Project (CCC File No. 22009)
Project Applicant:	NSTAR Electric Company d/b/a Eversource Energy 247 Station Drive Westwood, MA 02090
Project Location:	Town of Falmouth
Subcommittee:	Committee on Planning and Regulation

Project Description and Context

Eversource Energy ("Applicant") proposes installation of a fifth distribution cable from Falmouth to Martha's Vineyard for the purpose of meeting current and future electrical demand and increasing the reliability of the grid-based electrical service.

Currently, grid-based electricity is delivered to Martha's Vineyard by four submarine cables. In the summer months, the four existing submarine cables cannot reliably supply the peak demand. As this is often exceeded, five permanent diesel generators are used to meet the system demand. If a cable failure occurs during summer peak conditions, Eversource also needs to rent portable 2-MW diesel units to augment the existing generation until the failed cable is repaired. The most recent failure occurred in July 2021, when the 91 Cable failed.

As an electric company regulated by the Department of Public Utilities, the Applicant has a responsibility to provide and maintain reliable electrical service throughout its service area. The Applicant proposes the installation of a fifth cable to uphold its responsibility to make the grid-based power serving Martha's Vineyard more robust and reliable and to support the transition to a more electric-centric energy supply.

Components of the Project located within Barnstable County include:

- submarine cables from Surf Drive Beach across Vineyard Sound, 2.46 miles +/- of which is located in Barnstable County;
- a 2.7-mile +/- long 25-kiloVolt (kV) distribution cable from an existing Eversource Substation #933 off Stephens Lane in Falmouth to the Surf Drive Beach landing site of the submarine cable;
- an underground duct and manhole system to house the 2.7-mile +/- distribution cable between Substation #933 and Surf Drive Beach, proposed to proceed west on Jones Road to the Shining Sea Bikeway, follow the bikeway to Cemetery Lane, turn south onto Mill Road, then east onto Surf Road, and terminate at the parking lot eastern end of Surf Road (collectively, the "Project").

A combination of Horizontal Directional Drill ("HDD") and hydroplow will be used to install the offshore cable, with the hydroplow construction technique used for the majority of the offshore route length, and HDD used at the landing sites to avoid impact to intertidal resources. The offshore cables will connect to the onshore cables at the landfall site.

All onshore cables will be contained within a buried concrete duct bank.

DRI Jurisdiction

The Project requires mandatory DRI review pursuant to Section 2(d)(i) of the Commission's Chapter A: Enabling Regulations Governing Review of Developments of Regional Impact ("Enabling Regulations"), revised November 2021, because the Project required the preparation of an Environmental Impact Report ("EIR") pursuant to the Massachusetts Environmental Policy Act, M.G.L. c. 30, §§ 61-62I ("MEPA").

Procedural History

- The Project triggered review under MEPA because it would result in alteration of ½ or more acres of any other wetlands (Land Under Ocean ["LUO"]) and proposes dredging of 10,000 or more cubic yards of material. The Project required preparation of an EIR pursuant to 301 CMR 11.06(7)(b) because it is located within a Designated Geographic Area around an EJ population.
- The Project received its certificate on its Single Environmental Impact Report ("SEIR") stating that the project properly and fully complies with MEPA on February 17, 2023.
- A staff hearing officer opened the DRI hearing period procedurally on April 3, 2023. The Applicant submitted a DRI application for the Project to the Commission on August 29, 2022.

DRI Review Standards

- Section 7(c)(viii) of the Commission's Enabling Regulations contains the standards to be met for DRI approval, which include, as applicable, consistency with the Cape Cod Regional Policy Plan ("RPP"), municipal development bylaws, District of Critical Planning Concern ("DCPC") implementing regulations and Commission-certified Local Comprehensive Plans ("LCP"). The Commission must also find that the probable benefit from the Project is greater than its probable detriment.
- DRI review of the Project is subject to the 2018 Regional Policy Plan ("RPP"), as amended in March 2021, which is the version of the RPP in effect at the time of the Commission's first substantive public hearing on the Project. The Commission determines the Project's consistency with the Act and RPP by determining whether the Project is consistent with the Goals and Objectives in Section 6 of the 2018 RPP, as particular goals and objectives are deemed applicable and material to the Project.

Cape Cod Regional Policy Plan

Applicable and Material RPP Goals

Commission staff reviewed the details of the DRI Application Materials and suggest that the following RPP Goals are applicable, material, and regionally significant and are thus subject to RPP consistency review: Transportation, Water Resources, Ocean Resources, Coastal Resiliency, Capital Facilities and Infrastructure, and Energy. Commission staff make the following recommendations relative to the Project's consistency with these RPP Goals and relevant Objectives and Technical Bulletin guidance.

Transportation

The Transportation Goal of the RPP is *to provide and promote a safe, reliable, and multi-modal transportation system*.

The following Objective is applicable and material to the Project:

- **TR1**—improve safety and eliminate hazards for all users of Cape Cod's transportation system
- **TR2**—provide and promote a balanced and efficient transportation system that includes healthy transportation options and appropriate connections for all users

The Transportation Goal applies to development projects that will have a regionally significant and permanent effect on regional transportation infrastructure or the traffic network. This Project, once developed, will have no permanent effect on the traffic

network. To the extent that this Project will make improvements to transportation infrastructure, it furthers Objective TR2, as discussed below.

Though the Project impacts on traffic safety will be largely limited to construction activities, to be consistent with Objective TR1, Projects must mitigate off-site safety impacts. Temporary construction impacts associated with the offshore cable installation will be mitigated with Traffic Management Plans ("TMPs") developed by Eversource and approved by state and local officials for the affected roadways and bike path. Work will be limited to daytime hours (7AM to 6PM) and will adhere to the typical summer shutdown on construction activities on Cape Cod (Memorial Day to Labor Day) when traffic volumes are lower. TMPs will be finalized through coordination with the Town of Falmouth and MassDOT to avoid and minimize temporary traffic-related impacts, and to avoid any regional impacts during construction. Staff recommend that, as a condition of any Decision, TMPs be subject to review by Commission staff.

The Applicant proposes make improvements to bicycle and pedestrian infrastructure as part of the Project, consistent with TR2. The methods to achieve consistency with Objective TR2 include supporting and providing improved connections to the region's pedestrian, bicycle, and transit networks. Consistent with these methods, the Applicant has agreed to widen and repave portions of the Shining Sea Bikeway as part of the Project. The Shining Sea Bikeway is a heavily used rail trail, which is a component of a region-wide trail network allowing for users to travel across Cape Cod in a healthy, sustainable manner. By improving the condition of the bike path, the Applicant is supporting the region's bicycle network, consistent with TR2. Further, the Applicant has agreed to relocate fifteen (15) utility poles on Palmer Avenue in Falmouth to improve sidewalk clearances to meet current standards and improve safety for pedestrians. Based on the Applicant's submissions, the Palmer Avenue sidewalk will be used as a detour route while the Shining Sea Bikeway is closed during construction. Staff suggest that any Decision include a condition to require the Applicant to re-grade the grass shoulder adjacent to the new pavement surface of the Shining Sea Bikeway to avoid an unsafe condition for bicyclists/pedestrians who use the shoulder as a safety area to recover from avoidances.

As part of the MOU with the Town, Eversource has agreed to provide the Town with $800,000 to mitigate project construction impacts to support the Town's restoration of Surf Drive, changes in connection with the disruption of the Shining Sea Bikeway, the restoration of the Depot Avenue parking lot, and additional unspecified construction impacts such as traffic congestion and economic impacts.

Water Resources

The Water Resources Goal of the RPP is to *maintain a sustainable supply of high-quality untreated drinking water and protect, preserve, or restore the ecological integrity of Cape Cod's fresh and marine surface water resources*.

The following Objective is applicable and material to the Project:

- **WR4**—manage and treat stormwater to protect and preserve water quality

The Project proposes adequate stormwater treatment and control during and after construction, accounting for a small amount of impervious surface attributable to Shining Sea Bikeway widening. To be consistent with Objective WR4, the Project must employ methods to manage and treat stormwater. As the Applicant proposes to widen the Shining Sea Bikeway throughout certain areas of the route, impervious surface will increase by 14,730 square feet. With an increase in impervious surface, the proponent proposes stormwater management using a 2-foot-wide, 1-foot-deep gravel infiltration trench along each side of the altered bike path. This management design is more than sufficient in storage and infiltration capacity for a 1-inch rainstorm.

Staff note that the water resource considerations will largely be limited to the construction phase. Commission staff suggest that proper management during and after construction will be sufficient to mitigate these potential impacts. The Applicant included a Stormwater Pollution Prevention Plan in the DRI Application which staff suggest will serve to minimize impacts to nearby surface water bodies during construction. There are no ongoing impacts or risks to ground water from the cables after installation.

Ocean Resources

The Ocean Resources Goal is to *protect, preserve, or restore the quality and natural values and functions of ocean resources*.

The following Objectives are applicable and material to the Project:

- **OR1** – locate development away from sensitive resource areas and habitats
- **OR2** – preserve and protect ocean habitat and the species it supports
- **OR3** – protect significant human use area and vistas

All development projects in the Ocean must meet Ocean Resources Objectives OR1, OR2, and OR3. These Objectives and associated methods prioritize the protection of the ocean-based resources and uses that are present in the Project area. The cable installation is proposed in the following ocean resource areas: Priority Habitats for State-Protected Rare Species (PH 2158); Estimated Habitats for Rare Wildlife (EH 1366); hard/complex seafloor; and eelgrass.

Objective OR1

Although the Project is proposed in ocean resource areas, the Applicant has made adjustments that serve to avoid or mitigate impacts to ocean resources. Methods to meet Objective OR1 include siting development away from mapped prohibited areas and mapped exclusionary areas under the Cape Cod Ocean Management Plan ("CCOMP") and

siting development away from rare species habitat. Consistent with OR1, the offshore cables are not located within designated prohibited areas for ocean species or exclusionary areas as identified in the CCOMP. The offshore portion of the Project does extend through area mapped for Least Tern, Common Tern, and Roseate Tern, which is also a federal listed species. However, consistent with OR1, comments from Massachusetts Natural Heritage and Endangered Species Program ("NHESP") were submitted by the Applicant, demonstrate impacts to rare species or their habitat can be avoided with standard conditions such as time of year restrictions.

Objective OR2

The Project route, construction techniques, and the temporary nature of installation will minimize potential impacts to ocean habitat and species while still furthering a substantial public purpose. Methods to meet Objective OR2 applicable to this Project include protecting rare species, eelgrass, and benthic habitat; mitigating construction noise; and demonstrating public purpose. The Applicant has submitted the required documentation for each of these methods, discussed in greater detail below. Consistent with OR2, the Applicant has also submitted a Cumulative Impact Assessment for the Project, which staff suggest further supports the Applicant's position that the incremental addition of this Project will not unduly degrade ocean resources or conflict with human uses. The Applicant plans to mitigate construction noise by ensuring that appropriate mufflers are installed and maintained on construction equipment; minimizing idling times; and using shielding or buffering distance to the extent practical. With these mitigation measures in place, noise from vessel traffic associated with the Project is likely to be similar to background vessel traffic noise.

As discussed above, because this Project is located in rare species habitat, the Applicant was required to submit the Project to NHESP for review and comment. Comments from NHESP indicate the state listed species present in the area are shore birds. Work over open water will not disturb nesting, and the limited size of the work area as compared to the expanse of feeding habitat is de minimus. Work at the landfall site in Falmouth, proximate to beach and dune, will observe time-of-year (TOY) restrictions to avoid nesting time of year and therefore no adverse effects to state-listed species are anticipated. Further consultation with NHESP will be formally initiated via submission of a Joint Wetlands Protection Act ("WPA") and Massachusetts Endangered Species Act ("MESA") Notice of Intent. Scheduling the work proximate to the beaches around TOY restrictions will be developed in conjunction with local Falmouth and state agencies during the permitting process.[1]

[1] To the extent Objective WPH3 (protect and preserve rare species habitat, vernal pools, 350-foot buffers to vernal pools) of the Wildlife and Plant Habitat Goal is applicable, material, and regionally significant, staff suggest the NHESP comments and measures to avoid impacts to rare species also satisfy the required method for WPH3.

Although benthic habitat in the direct path of the hydroplow will be disturbed during cable installation, recolonization and recovery of these habitats is expected based on results from similar projects in the region and given the similarity of nearby habitat and species. In addition, micro-siting implemented during the pre-pass phase of construction will be used to attempt to avoid impassable complex substrates, such as those containing large boulders or dense gravel pavement. HDD at the landfall site will avoid work on the beach or dune and is also proposed to avoid eelgrass off the Falmouth coastline. The DRI Application also indicates that the HDD exit hole locations will avoid eelgrass.

The Applicant also provided support for their position that the Project furthers substantial public purposes, consistent with OR2. The main public benefit of the Project is an increase in the reliability of electrical service in the Applicant's service area. Further, after the fifth cable is in service Eversource will cease using the five on-Island diesel peaking generators which will reduce fossil fuel use and avoid air emissions from those decommissioned generators. Additionally, there are improvements to transportation infrastructure, such as the widening and repaving of the Shining Sea Bikeway, that will benefit the public.

Objective OR3

The Project route was chosen to align with existing cable corridors and avoid interference with existing developed uses. To be consistent with OR3, Projects should be sited to minimize impacts to ocean-based recreation and commercial uses, and to avoid archeological resources. Consistent with OR3, the Project construction window will be coordinated to take place between Labor Day and Memorial Day to minimize impacts to high-use activity areas. While construction and installation activities may temporarily affect navigation and/or fishing activities in the vicinity of cable installation vessels, these impacts are expected to be limited and will be determined in coordination with the U.S. Coast Guard. A marine archeological resources assessment was conducted for the Martha's Vineyard Reliability Project within Vineyard Sound and was submitted to the Massachusetts Historical Commission and Massachusetts Board of Underwater Archaeological Resources. No effects to known marine archaeological resources are anticipated.

Staff suggests the Project is consistent with the applicable and material Ocean Resources Goal and Objectives of the RPP, provided proposed Best Management Practices and mitigation measures are implemented. The Applicant has made route, design, and construction choices that should serve to minimize impacts to ocean resources. Through offshore cable route selection, cable installation methods, TOY restrictions, and the use of HDD for the offshore-onshore transition, the Project locates development away from sensitive ocean resource areas and habitats and preserves and protects ocean habitat and the species it supports, consistent with OR1 and OR2. The temporary nature of offshore export cable installation impacts and the limited permanent footprint due to any cable protection serves to protect offshore human use areas, consistent with OR3.

Wetlands Resources

The Wetlands Resources Goal of the RPP is to protect, preserve, or restore the quality and natural values and functions of inland and coastal wetlands and their buffers.

The following Objective is applicable and material to the Project:

- **WET1** – protect wetlands and their buffers from vegetation and grade changes

The RPP allows for utility installation in wetlands and their buffers where the Applicant can show that there is a public benefit, there is no feasible alternative to alteration, and the impacts from the alteration are minimized and mitigated. Staff suggest the Project is consistent with Objective WET1 because the Project is the water-dependent installation of utility lines, there will be no permanent impacts to wetland resource areas within the land-based portion of the Project, and temporary impacts within the limited wetland resource areas described above will be minimized with construction Best Management Practices and restored to existing conditions after construction.

Staff suggests the Project will facilitate several public benefits including improved electricity reliability and reduced emissions as the cable will replace the need for diesel generators. As a water-dependent project providing a connection between Falmouth and Martha's Vineyard, there is no feasible alternative to the cable location within Land Under the Ocean and the affected areas of Coastal Dune and Land Subject to Coastal Storm Flowage. The Applicant has taken steps, including those noted herein, to select a route, design installation and construction, and accommodate TOY restrictions to protect wetland resources, such that impacts from the installation will be minimized and mitigated. Work in the buffer zones to coastal beach and coastal dune is located within public Right-of-Way (ROW) and will not affect vegetation or grades. The buried cable will not change grades in the ROWs.

The other Wetlands Resources Objectives are not applicable or material to the Project as the Project will not result in any changes in hydrology or increased stormwater discharges to wetlands and does not involve restoration of degraded wetland resource areas.

Coastal Resiliency

The Coastal Resiliency Goal of the RPP is to *prevent or minimize human suffering and loss of life and property or environmental damage resulting from storms, flooding, erosion, and relative sea level rise.*

The following Objective is applicable and material to the Project:

- **CR2**—plan for sea level rise, erosion, and floods

While work proximate to coastal banks is limited to existing paved areas and the underground duct and manhole system, the Project was designed to be resilient to sea level rise, erosion, and floods. The applicable method to be consistent with Objective CR2 is to design the Project to accommodate sea level rise. The duct and manhole system and cable are designed to be watertight to be resilient to coastal flooding; however, they will not cause loss of flood storage as they are proposed to be buried below existing grades. Corrosion control measures are also included in the manholes to mitigate corrosion of any exposed metal structures or equipment.

Capital Facilities & Infrastructure

The Capital Facilities & Infrastructure Goal of the RPP is to guide the development of capital facilities and infrastructure necessary to meet the region's needs while protecting regional resources.

The following Objectives are applicable and material to the Project:

- **CAP1**—ensure capital facilities and infrastructure promote long-term sustainability and resiliency
- **CAP2**—coordinate the siting of capital facilities and infrastructure to enhance the efficient provision of services and facilities that respond to the needs of the region

Objective CAP1

The Project ensures long term sustainability as it is designed to withstand wind and flooding hazards. To be consistent with Objective CAP1, projects should locate infrastructure away from flood-prone or high hazard areas. The Project is consistent with this objective as it locates infrastructure underground where it will not be subject to wind, ice, tree falls or other above ground hazard. The Applicant has also designed the infrastructure to be resilient to flooding.

Objective CAP2

While portions of the project must inherently be located in flood prone areas, cables and splices are designed to be sealed from water intrusion. When properly installed according to industry standards, underground cable systems are not affected by flooding and weather events. Directional drilling will avoid any impacts to the natural beneficial functions of coastal resources.

Consistent with Objective CAP2, the Applicant coordinates this Project with other cable installations and with improvements to local and regional transportation infrastructure. The use of existing utility easements and rights of way reduces the cost of providing infrastructure and protects the region's historic and community character.

Energy

The Energy Goal of the of the RPP is to *provide an adequate, reliable, and diverse supply of energy to serve the communities and economies of Cape Cod.*

The following Objective is applicable and material to the Project:

- **EN2**—increase resiliency of energy generation and delivery

The Project will further the reliability of the electric supply and reduce the dependence on fossil fuel generators. Consistent with the method for Objective EN2, the Project will protect infrastructure by locating the transmission cables underground and manage for peak demand. Currently, five diesel generators on Martha's Vineyard support peak demand. By supporting redundant electricity distribution and transmission infrastructure the Project is proposed to improve the reliability of grid-based electricity, meet existing and projected load growth, and allow for better integration of distributed renewable power.

Other DRI Standards of Review

Consistency with applicable Municipal Development Bylaws

Under the Memorandum of Understanding (MOU) with the Town of Falmouth, the Applicant will seek all requisite approvals for the Project from the Town. The Town has agreed to coordinate with Eversource to facilitate a timely review of the required Eversource grant of location petitions, street opening permits, and all other Town approvals that may be required for the Project.

The approvals required for the Project are: Falmouth Conservation Commission Massachusetts Wetlands Protection Act Order of Conditions/Falmouth Wetlands Protection Bylaw; and Grant of Location and Street Opening Permit.

DCPC Implementing Regulations

The offshore cable is located in an area that was designated as Cape Ocean Management Planning District of Critical Planning Concern ("DCPC"). There are no implementing regulations associated with the DCPC that apply to the Project.

Consistency with CCC-certified Falmouth LCP

The Project broadly supports sustaining economic viability and infrastructure while maintaining the resilience of the natural resources and including opportunities to advance recreational assets, consistent with Falmouth's Commission-certified Local Comprehensive Plan.

Supportive of the Town's goals for Economic Sustainability Policy to provide the necessary infrastructure to meet the needs of the local and regional economy, the Project supports

economic sustainability by increasing reliability of energy delivery infrastructure. The Proponent has established an MOU with the Town of Falmouth to provide these benefits. Further, consistent with the Town's, the new underground and submarine electric distribution cable will improve reliability with increased grid-based electric service to meet current and future electricity demands and improve the ability to integrate dispersed renewable energy in support of the Town's Energy Policy to support the use of renewable energy sources.

The Project is broadly supportive of the Town's Transportation Policies to: increase the local and regional transportation system's efficiency, flexibility, and resilience; maintain transportation infrastructure; and encourage environmentally sensitive modes of travel. The Project will result in the widening and repaving of portions of the Shining Sea Bike Path as well as the relocation of 15 utility poles in Palmer Avenue in Falmouth to improve sidewalk clearances. The Applicant has also committed to installing electric vehicle charging stations at the Palmer Avenue parking lot and other locations in Falmouth.

Relative to the Town's Policies for Land Use and Historic Character, the Project proposes to utilize existing infrastructure including the bike path and roadways to install the underground cable. This reuse of existing developed land eliminates the need to impact natural areas and any impacts to visual resources. The cable route in Falmouth does not pass through any mapped historical areas and was chosen over alternative routes that passed through several mapped historical areas.

Probable Project Benefits versus Probable Project Detriments

In addition to consistency with other DRI review and approval standards, the Subcommittee should identify and weigh the probable benefits of the Project relative to the probable detriments, from a regional perspective.

Staff suggest that the following may be considered as probable benefits of the Project:

- Meet current and future electricity load expectations to improve the reliability of grid-based power;
- Alleviate the need for a battery storage facility and allow for the retirement of the diesel generators on Martha's Vineyard;
- Allow for the future elimination of fossil fuel use on the island as the Eversource grid incorporates a greater amount of renewable electricity;
- The Applicant will make contributions toward recreation and exercise opportunities in Falmouth, such as the widening and repaving of the Shining Sea Bikeway; and
- The Applicant will relocate fifteen (15) utility poles on Palmer Avenue to increase sidewalk clearance and improve pedestrian passage.

Staff suggest that the following may be considered as probable detriments of the Project:

- Temporary traffic delays in the area of onshore cable installation; and
- Temporary elevation of turbidity associated with offshore cable installation.

Recommended Conditions

- The Applicant shall obtain all required federal, state, and local permits, licenses, and approvals. The Project's consistency with required Municipal Development Bylaws shall be ratified and confirmed by the Applicant obtaining the required municipal development permits.
- The Applicant shall provide or otherwise ensure that the Commission is copied on all state and local permits, licenses, and approvals, including without limitation MassDOT access permit submissions and approvals.
- Wherever existing infrastructure, such as roads, sidewalks, and street trees are impacted, they shall be repaired or replaced to same or better condition, in coordination with the Town of Falmouth and state agencies.
- The Applicant shall make all reasonable efforts to publicize construction activities, detours or road closures utilizing various media outlets, such as media outreach and Variable Message Signs located at key points within the study area, in particular impacts to roadways that will span over an extended period of time and impacts that will occur on a major regional roadway.
- The Applicant shall continue to work with applicable state and federal agencies to finalize and implement TOY restrictions and BMPs to avoid, minimize, and/or mitigate impacts to ocean resources, species, and habitats, and ocean-dependent human uses.