Vineyard Wind

Coastal Zone Management Act, Consistency Certification (15 CFR 930.57)

Vineyard Wind LLC (Vineyard Wind) has prepared this Consistency Certification to demonstrate that its proposed development within Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0501 (Figure 1) is consistent to the maximum extent practicable with the provisions identified as enforceable by the Coastal Management Programs (CMPs) of the Commonwealth of Massachusetts and State of Rhode Island. As described herein, the proposed activity complies with the enforceable policies of the Massachusetts and Rhode Island approved management programs and will be conducted in a manner consistent with such programs. This document is provided pursuant to the requirements of 15 CFR 930.57 of the Coastal Zone Management Act (CZMA) Federal Consistency regulations.

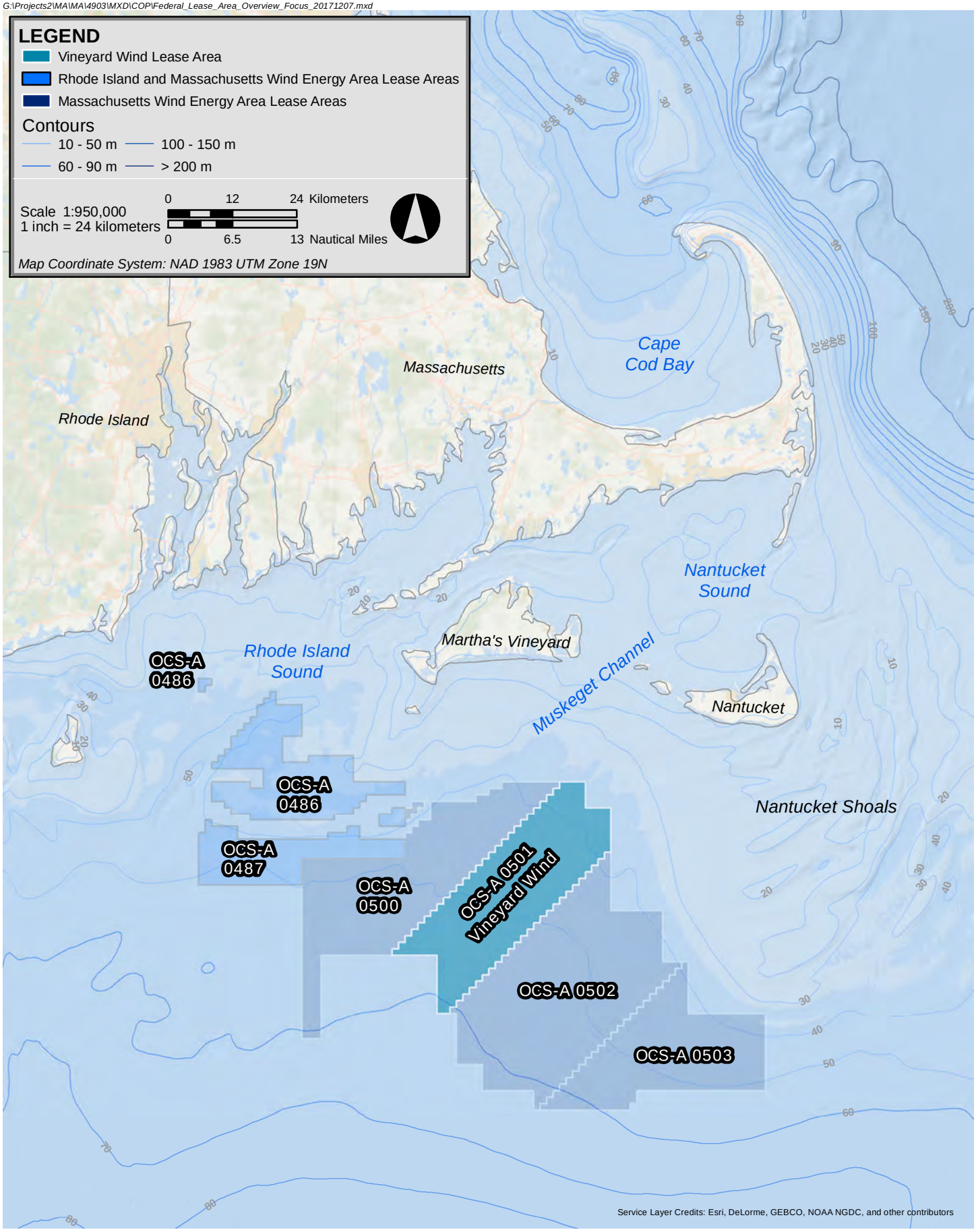
Section 307(c) (1) of the CZMA, as amended, requires that each federal agency activity within or outside the coastal zone affecting any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of federally-approved state management programs.

The Commonwealth of Massachusetts and State of Rhode Island share common coastal management issues and have similar enforceable policies as identified by their respective CMPs. Due to the proximity of the Vineyard Wind Lease Area to both states (Figure 1), and their shared impacts on environmental and socioeconomic resources and uses, Vineyard Wind has prepared a single consistency certification for the Project.

1. BACKGROUND

Vineyard Wind is proposing an ~800 megawatt (MW) wind energy project within BOEM Lease Area OCS-A 0501, consisting of offshore Wind Turbine Generators (WTGs) (each placed on a foundation support structure), Electrical Service Platforms (ESPs), an onshore substation, offshore and onshore cabling, and onshore operations & maintenance facilities (these facilities will hereafter be referred to as the Project). The location of the Lease Area is depicted on Figure 1. As is described later in this document, the ~800 MW Project will be located in the northern portion of the over 675 square kilometers (km^2) (166,886 acre) Lease Area (referred to as the Wind Development Area or WDA).

The Project is fully described in the Construction and Operations Plan (COP) filed with BOEM on December 19, 2017 and is summarized below.



Vineyard Wind Project

VINEYARD WIND

Figure 1

RI and MA Lease Areas Overview

2 DESCRIPTION OF PROPOSED PROJECT

The Project consists of up to 106 offshore WTGs arranged in a grid-like pattern located in the Atlantic Ocean south of Martha's Vineyard. The Project also includes up to four ESPs, inter-array cables connecting the WTGs to the ESPs, inter-link cables between ESPs, and up to three offshore export cables. Each WTG will independently generate approximately 8 to 10 MW of electricity and will interconnect with the ESPs via the inter-array submarine cable

system. The offshore export cable transmission system connects the ESPs to a landfall location in either Barnstable or Yarmouth. It is approximately 227 kilometers (141 miles) in length, assuming that three export cables are used. After the offshore export cables are brought to shore at one of three potential landfall sites, the physical connection between the offshore export cables and the onshore export cables will be made in an underground concrete vault(s). The onshore export cable route, located principally in established right-of-ways, will connect the underground vault at the landfall site to a new onshore substation located within the Independence Park commercial/industrial area in Barnstable. The Project will then connect to the New England transmission system at Eversource's Barnstable Switching Station or the West Barnstable Switching Station.

The Lease Area is within the Massachusetts Wind Energy Area identified by BOEM, following a public process and environmental review, as suitable for wind energy development. The proposed ~800 MW Project is located within the northern portion of the Lease Area, referred to as the WDA. The WDA is 306 km^2 (75,614 acres). At its nearest point, the Lease Area is just over 23 kilometers (14 miles) from the southeast corner of Martha's Vineyard and a similar distance to Nantucket.

The Project has significant environmental benefits. The electricity generated by the WTGs, which do not emit air pollutants, will displace electricity generated by higher-polluting fossil fuel-powered plants and significantly reduce emissions from the ISO New England power grid over the lifespan of the Project. Based on air emissions data for New England power generation facilities from EPA's Emissions & Generation Resource Integrated Database (eGRID), the Project is expected to reduce CO_2 emissions from the ISO NE system by approximately 1,680,000 tons per year (tpy). In addition, NO_x and SOx emissions across the New England grid are expected to be reduced by approximately 1,080 tpy and 880 tpy, respectively. Furthermore, the Project is likely to benefit marine mammals and other marine life. These benefits include reduction in greenhouse gasses that induce climate change which in turn potentially impacts species' ranges and access to prey as prey species' shift or decline. In addition to these important environmental benefits, the Project is expected to bring significant employment and other economic benefits to the south coast of Massachusetts and the region. Finally, the Project should be an important foundational step in creating a thriving, utility scale, domestic offshore wind industry.

2.1 Design Envelope/Phasing

The Project is being developed and permitted using an "Envelope" concept. The evolution of offshore wind technology and installation techniques often outpaces the speed of permitting processes. The Envelope concept allows for optimized projects once permitting is complete while ensuring a comprehensive review of the project by regulators and stakeholders, as BOEM recognized in its National Offshore Wind Strategy. The flexibility provided in the Envelope is important because it precludes the need for numerous permit modifications as infrastructure or construction techniques evolve after permits are granted but before construction commences. The parameters of the Envelope are presented in Table 2-1, with the maximum design scenario for environmental analysis. Vineyard Wind is not proposing to develop its lease in phases at this time. The Project may be constructed in stages consisting of ~200MW, ~400MW, and ~800MW with up to 5 years between increments.

Table 2-1 Vineyard Wind Project Envelope with Maximum Design Scenario

CAPACITY	Maximum	
Wind Farm Capacity	~800 megawatt ("MW")	
WIND TURBINE GENERATORS	**Smallest Turbine**	**Largest Turbine**
Turbine Size	8 MW	10 MW
Total Height[1]	191 meters ("m") (627 feet ["ft"])	212 m (696 ft)
Number of Positions (up to)[2]	~8 MW WTGs 106	~10 MW WTGs 88
FOUNDATIONS		
Foundation Envelope	Combination of at least 400 MW monopiles and up to 400 MW jackets: -100% monopiles or -Up to 50% jackets, remainder monopiles	
Foundation Type	Jackets (Pin Piles)	Monopiles
Number of Piles/Foundation	3-4	1
Maximum Area of Scour Protection at each Foundation	up to 1800 square meters ("m^2") (19,375 square feet ["ft^2"])	up to 2100 m^2 (22,600 ft^2)
Maximum Number of Foundations Installed per Day (24 hours)	2 (up to 8 pin piles)	2

Table 2-1 Vineyard Wind Project Envelope with Maximum Design Scenario (Continued)

ELECTRICAL SERVICE PLATFORMS		
ESP Type	Light-weight ESP	Conventional ESP
Number of ESPs	**4**	2
Foundation Types for Conventional or Light-weight ESP	Monopiles	Jackets
Number of Piles/Foundation	1	3-4
Maximum Area of Scour Protection at each Foundation	up to 2100 m^2 (22,600 ft^2)	up to 2500 m^2 (26,900 ft^2)
Maximum Height above Mean Low Water ("MLLW")	65.5 m (215 ft)	**66.5 m (218 ft)**
INTER-ARRAY CABLES		
Inter-array Cable Voltage	66 kilovolts ("kV")	
Maximum Length of Inter-array Cables	**275 kilometers ("km") (171 miles ["mi"])**	
EXPORT AND INTER-LINK CABLES		
Export and Inter-link Cable Voltage	220 kV	
Maximum Length of Inter-link Cable[3]	**15 km (9.3 mi)**	
Maximum Number of Export Cables	3	
Maximum Length of Export Cables (for three export cables)	**227 km (141 mi)**	

Notes:

Maximum Design Scenario indicated by double lined box and bold text.

1. Turbine output not necessarily proportionately linked to size, so smallest turbine size may not be an eight MW turbine.
2. Additional positions included account for spare positions as well as added capacity to account for electrical losses.

2.2 Construction and Installation

2.2.1 Offshore Activities and Facilities

The Project's offshore elements include the wind turbine generators (WTGs) and their foundations, the electric service platforms (ESPs) and their foundations, scour protection for all foundations, the inter-array cables, the inter-link cable that connects the ESPs, and the offshore export cables. The WTGs, the ESPs, the inter-array cables, the inter-link cable, and portions of the offshore export cables are located in federal waters. The balance of the export cable run is located in Massachusetts waters.

2.2.1.1 Wind Turbine Generators

The Project will install ~8 MW to ~10 MW WTGs. If 8 MW turbines are used, up to 106 WTGs will be installed; if 10 MW turbines are used, up to 88 WTGs will be installed. The site layout for up to 106 turbines is shown on Figure 3.1-2 of Volume I of the COP.

The WTGs are arranged in a grid-like pattern. Spacing between WTGs will vary from approximately 1,400 m to over 1,850 m (0.76 to 1.0 nautical miles) with a one-nautical mile wide corridor (1,850 m) running from northwest to southeast and northeast to southwest within the grid design.

The WTGs consists of two main components, the rotor nacelle assembly (RNA) and the Tower. The nacelle houses the energy-generating components of the turbine, including the gear box, generator, controller, low- and high-speed shafts, and brake. A pitch and yaw system will allow the wind turbine to optimize its performance by positioning the direction of the rotor and the angle of the blades. The brake, pitch, and yaw systems may be controlled using hydraulics. The RNA is mounted on the steel tower which is mounted on a foundation and/or transition piece via a bolted connection. The WTGs will have three-bladed rotors manufactured from fiberglass and carbon, which are connected to a steel hub.

The WTGs will be no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey in color to reduce their visibility against the horizon. In accordance with FAA requirements and/or BOEM guidelines, two synchronized Federal Aviation Administration (FAA) "L-864" aviation red flashing obstruction lights will be installed on each WTG nacelle. Depending upon commercial availability and regulatory approval, the Project will use either an Aircraft Detection Lighting System (ADLS) that is activated automatically by approaching aircraft or a system that automatically adjusts lighting intensity to accommodate visibility conditions to reduce potential impacts. If the use of ADLS is not feasible, reduced lighting for the interior will be reviewed and discussed with BOEM and the FAA. Marine navigation lighting will consist of two yellow flashing lights at each turbine and lights on the corners of ESPs approximately 20 - 23 m above MLLW. In accordance with International Association of Lighthouse Authorities (IALA) guidance, each WTG foundation will be painted with high visibility yellow paint from the water line to an approximate height of at least 15m (50 ft). Automatic Identification System (AIS) transponders and sound signals (on selected WTGs) are included in the Project design to enhance marine navigation safety.

The WTG parameters are provided in the table below and are shown on Figure 3.1-1 of Volume I of the COP.

Table 2-2 WTG Parameters

WTG Parameter	Envelope
Tip height	191-212 m (627-696 ft) MLLW*
Hub height	109-121 m (358-397 ft) MLLW
Rotor diameter	164-180 m (538-591 ft) MLLW
Platform level and expected Interface level towards foundations	19-23 m (62-75 feet) MLLW
Tip clearance	27-31 m (89-102 ft) MLLW

Note: MLLW is mean lower low water, which is the average height of the lowest tide recorded at a tide station each day during the recording period. Elevations relative to mean higher high water are approximately 1 m (3 ft) lower than those relative to MLLW.

The WTGs will be installed with either a jack-up or a dynamic positioning (DP) vessel. The tower will first be erected followed by the nacelle and finally the hub, inclusive of the blades. Alternatively, the nacelle and hub could be installed in a single operation followed by the installation of individual blades. The WTG installation phase represents the most intense period of vessel traffic in the offshore site with wind turbine foundations, inter-array cables and wind turbines being installed in parallel; however, this is a relatively short time period compared to the life of the Project.

2.2.1.2 WTG Foundations

The WTG foundations will either be all monopiles or a combination of monopiles and jackets. Jackets are expected to be used in deeper water locations. Scour protection will be used to protect the foundations from scour development, which is the removal of the sediments near structures (such as the foundation) by hydrodynamic forces. Scour protection consists of the placement of stone or rock material that can withstand the increase seabed drag that is created by the presence of the foundation.

The monopile is a single, hollow cylinder fabricated from steel that is secured in the seabed. The diameter of the monopiles will range from 7.5 to 10.3 meters (25 to 34 feet) and will be driven into the seabed approximately 20 to 45 meters (66 to 148 feet) depending upon seabed conditions and water depths (see Figure 3.1-3 of Volume I of the COP). Each monopile will typically be topped by a transition piece (see Figures 3.1-3 and 3.1-4 of Volume I of the COP), although in some cases an extended monopile may be used (no transition piece; Figure 3.1-5 of Volume I of the COP). The transition piece provides a level surface for the WTG tower above it and contains secondary structures, such as tower flange for mounting the WTG, boat landing, internal and external platform, and various electrical equipment needed during installation and operation.

The Jacket design concept consists of 3-4 piles, a large lattice jacket structure and a transition piece (TP), see Figures 3.1-6 through 3.1-8 of Volume I of the COP. The jacket will also contain secondary structures, such as boat landings and cable tubes. The piles for the jacket foundation will range from 1.5 to 3 meters (5 to 10 feet) and will be driven into the seabed approximately 30 to 60 meters (98 to 197 feet), depending on seabed conditions and water depths.

The monopiles (or jackets) are expected to be installed by a single heavy lift or jack-up vessel. Anchored vessels will not be used as primary construction and installation vessels within the WDA. Any anchoring that does occur within the WDA will occur within the Area of Potential Effect (APE) defined in Volume II-C of the COP. Pile driving will begin with a "soft-start" to ensure that the monopile remains vertical and allow marine life to move away before the pile driving intensity is increased. The intensity (hammer energy level) will be gradually increased based on the resistance that is experienced from the sediments. Typical pile driving for a monopile is expected to take less than approximately three hours to achieve the target penetration depth (driving a pile for a jacket is expected to take significantly less time). It is anticipated that a maximum of two monopiles or two complete jackets could be driven into the seabed per day. No drilling is anticipated, but it could be required if a large boulder is encountered.

2.2.1.3 Electrical Service Platforms (ESPs)

The ESP(s) will serve as the common interconnection point for the WTGs within the array. Each WTG will interconnect with the ESP via a 66kV submarine cable system. These cable systems will interconnect with circuit breakers and transformers located on the ESP to increase the voltage level and transmit wind-generated power through the offshore export cable systems to the final connection point to the New England Transmission System.

For each 400 MW, either one conventional ESP (with two transformers), or two light-weight ESPs (with one transformer on each) that are bridged together at one location may be used. Like the WTGs, the ESPs will be secured to the seabed with either a monopile or jacket foundation and will also have scour protection. The foundations for the ESPs will be installed in the same manner as the WTG foundations. The ESP will have a maximum height above MLLW of approximately 65.5 meters to 66.5 meters (215 to 218 feet) depending upon the foundation used. The approximate size and design of topside components of conventional ESPs are depicted in Figures 3.1-10 through 3.1-13 of Volume I of the COP). Each ESP will be inter-linked with a inter-link cable the same 220 kV cable as used for the export cable. Figure 3.1-14 of Volume I provides representaive pictures of ESPs installed in Europe.

2.2.1.4 Inter-array Cables

The WTG's will be connected to the ESPs via 66kV inter-array cables. The expected cable type is a three-core alternating current ("AC") cable, which will also be the type of cable used for export cables, described in Section 2.2.1.5.

The inter-array cables will connect radial "strings" of 6 to 10 WTGs to the ESPs. The inter-array cable system will be designed and optimized for the Project during the final design and will consider cable design and capacity, ground conditions, Project operating conditions, installation conditions, and potential cultural resources. Therefore, the Envelope for the inter-array cables includes any potential layout within the WDA. One potential layout is provided as Figure 3.1-18 of Volume I of the COP, for illustrative purposes. As shown in Figure 3.1-18, the farthest WTG will have one outgoing connection and each subsequent WTG will have both an incoming and outgoing cable. The maximum anticipated length of the inter-array cables for an ~800 MW Project is approximately 275 km (170.8 miles). The inter-array cables are anticipated to be installed up to 1.5 to 2.5 meters (4.9 to 8.2 feet) below the seafloor, likely by jet plow embedment, after the cables are placed on the seafloor.

2.2.1.5 Offshore Export Cables

Up to three offshore export cables will connect the ESPs to the bulk power grid. Each offshore export cable, as well as the inter-link cables that connect the ESPs together, will be comprised of a three-core 220 kV AC cable for power transmission and one fiber optic cable for communication and temperature measurement, which serves to monitor the high-voltage system. The three-cores of the cable consist of three copper or alumimum conductors which will each be encapsulated by cross-linked polyethylene (XLPE) insulation and waterproof sheathing will prevent the infiltration of water.

Each of the export cables will be installed below the seafloor. In certain locations, sand waves are present, and since part of the sand waves may be mobile over time, the upper portions of the sand waves may need to be dredged so that the cable laying equipment can achieve the proper burial depth below the sand waves and into the stable sea bottom. Where required, dredging will occur within a 20 m (66 foot) wide dredged corridor by various techniques depending upon site conditions. Dredge volumes are dependent on the final route and cable installation method: a cable installation method that can achieve a burial depth of 2.5 m will require less dredging; a cable installation method that can achieve a burial depth of 1.5 m will require more dredging. The average dredge depth is 0.5 meters and may range up to 4.5 meters in localized areas. The maximum length of export cables (assuming three cables) is 227 kilometers (141 miles).

The majority of the export and inter-link cable is expected to be installed using simultaneous lay and bury via jet plowing. However, other methods may be needed in areas of coarser or more consolidated sediment, rocky bottom, or other difficult conditions in order to ensure a proper burial depth. While anchored vessels are not expected to be the primary vessels used for cable installation, some anchored vessels may be needed along portions of the cable route. It is expected that there will be some areas where it will be difficult to achieve the proper burial depth. In those areas the cable will be protected by techniques such as placing rocks on top of the cable or placing prefabricated flexible concrete coverings on top of the cable (referred to as concrete mattresses).

2.2.2 Onshore Activities and Facilities

2.2.2.1 Export Corridors

Two potential export cable corridors are being considered that would connect the ESPs to landfall locations in either Barnstable or Yarmouth: (1) the Western Corridor passes through Muskeget Channel, turn west, and makes landfall at the Covell's Beach parking lot in the Town of Barnstable, New Hampshire Ave/Lewis Bay in the Town of Yarmouth, or a location on Great Island in the Town of Yarmouth, and (2) the Eastern Corridor passes through Muskeget Channel, turn east, and then makes landfall at either New Hampshire Avenue or Great Island. See Figure 3.1-15 of Volume I of the COP.

The New Hampshire Avenue landing site is located inside Lewis Bay where a road dead-ends just west of Englewood Beach at a low concrete bulkhead. A paved parking area is located approximately 300 feet north of the dead-end where construction staging operations could occur. The Great Island cable landing site is located on private property on a barrier beach (Great Island) that separates Lewis Bay from Nantucket Sound. The use of the Great Island landing site avoids the need to route submarine cables through the entrance to Lewis Bay. The Covell's Beach landing site is located on Craigville Beach Road near the paved parking lot entrance to a public beach that is owned and managed by the Town of Barnstable.

In all three cases, the ocean to land transition could be made using Horizontal Directional Drilling (HDD). The HDD rig would be setup in a parking lot or other previously disturbed area; the drill would be advanced seaward. However, the Lewis Bay/New Hampshire Ave landing area may be suitable for a direct lay approach. This landing area is unique in that the shoreline area has been entirely altered with manmade structures (road, sea wall, riprap, etc.). Moreover, there is no eelgrass or other sensitive habitat in the shallow water immediately offshore from the end of New Hampshire Ave.

Upon making landfall, the transmission line would follow one of two potential routes to connect the underground vault at the landfall site to the new onshore substation (Figure 2.2-1 of Volume I of the COP). For both routes, the onshore cables will be located entirely underground, primarily beneath public road right-of-ways with some shorter stretches in existing electric or railroad ROWs. The underground onshore cable routes are approximately 9 to 10 km (5.4 to 6.0 miles) in length.

The physical connection between the offshore export cables and the onshore export cables at the landfall site will be made in an underground concrete vault(s). From the surface, the only visible components of the cable system are the manhole covers. Inside the vault(s), each three-core submarine cable will be separated and spliced into three separate single-core cables and placed within a single duct bank. The duct bank is constructed using heavy wall PVC pipes encased in concrete. The duct bank installation is done with conventional construction equipment (e.g., hydraulic excavator, loader, dump trucks, flatbed trucks to deliver PVC pipe, crew vehicles, cement delivery trucks, paving equipment). Once the duct

bank is in place, the cables are pulled into place via underground splice vaults and associated manholes, which are placed every 457 to 607 m (1,500 to 2,000 ft) or more along the duct bank.

2.2.2.2 Onshore Substation

The onshore substation site will be constructed on the eastern portion of a previously developed site, adjacent to an existing substation, within the Independence Park commercial/industrial area in Barnstable. The buried duct bank will enter the substation site by way of an access road that provides access to the electric transmission corridor from Mary Dunn Road. The substation will house up to four 220 kV /115 kV "step-down" transformers, switchgear, and other necessary equipment. The Project will connect to the bulk power grid via available positions at Eversource's Barnstable Switching Station, located just to the north of the substation site, though Vineyard Wind is also including the option to connect at the West Barnstable Switching Station. If a connection is made at West Barnstable, the Project substation would include step-up transformers (220 kV to 345 kV).

2.2.2.3 Port Facilities

Vineyard Wind has signed a letter of intent to the use the New Bedford Marine Commerce Terminal facility to support Project construction; the terminal is owned by the Massachusetts Clean Energy Center. The 26-acre New Bedford facility, located on the City's extensive industrial waterfront, was purposely built to support offshore wind energy projects. The terminal is just upstream of the Army Corps of Engineers hurricane barrier and has ready access to interstate highways.

The New Bedford facility is expected to be used to offload shipments of components, prepare them for installation, and then load components onto jack-up barges or other suitable vessels for delivery to the lease area for installation[1]. Some component fabrication and fitup may take place in New Bedford or other nearby ports as well.

Given the scale of the Project and the possibility that one or more other offshore wind projects may also use portions of the 26-acre New Bedford facility in parallel with Vineyard Wind, it is possible that Vineyard Wind may stage certain activities from other Massachusetts or North Atlantic commercial seaports. (At this juncture, the Project is also planning to potentially use a port facility in nearby Rhode Island to offload, store and stage the turbine blades for delivery to the offshore construction area as needed.) Consequently, one or more of the ports listed in Table 2-3 may be used during construction of the Project.

[1] Monopiles may not be loaded onto vessels for transport but may instead be pulled by tugs while floating in the water.

Each port facility being considered for the Project is located within an industrial waterfront area and was selected for further evaluation, in part, based on the port's existing infrastructure and capacity to host construction and installation activities. Table 2-3 describes the types of improvements that may be required at each port prior to the Project's use of the port. It is important to note that these improvements will be made irrespective of Vineyard Wind's Project and that Vineyard Wind will not direct or implement any improvements that may be made. Rather, Vineyard Wind will consider whether the ports are suitable for Vineyard Wind's needs if and when any necessary upgrades are made by the owner/lessor.

Table 2-3 Possible Ports Used During Construction

Port	Types of Improvements That May Be Required (To Be Completed by Port Owner/Operator Prior to Use by Vineyard Wind)
Massachusetts Ports	
New Bedford Marine Commerce Terminal	N/A. The New Bedford Terminal was specifically developed to accommodate offshore wind development.
Other areas in New Bedford Port	Onshore infrastructure improvements and local quay reinforcement.
Brayton Point	Land and quay structure improvements and maintenance dredging if used.
Montaup	Land and quay structure improvements; potential removal of some existing onshore infrastructure; and maintenance dredging if used.
Rhode Island Ports	
Providence	Minor land and quay structure improvements and minor dredging.
Quonset Point	Minor land and quay structure improvements and minor dredging.
Connecticut Ports	
New London	Land and onshore infrastructure improvements.
Bridgeport	Onshore infrastructure improvements; local quay reinforcement; and dredging.

2.3 Operations and Maintenance

2.3.1 Offshore Activities and Facilities

The WTGs are designed to operate without attendance by any operators. Continuous monitoring is conducted using a supervisory control and data acquisition (SCADA) system from a remote location. Examples of parameters that are monitored include temperature limits, vibration limits, current limits, voltage, smoke detectors, etc. The WTG also includes

self-protection systems that will be activated if the WTG is operated outside its specifications or the SCADA system fails. These self-protection systems may curtail or halt production or disconnect from the grid.

Weather conditions will also be monitored. The forecasts will cover key parameters covering both meteorological (wind, temperature, visibility, warnings (e.g. lightning), as well as oceanographic parameters (wave conditions). In addition, it is likely that a small weather station (wind, temperature sensors) will be installed on the ESP, as such operations personnel will have an indication of real time conditions offshore which can be used to support the planning and execution of work.

Routine inspection and maintenance activities will be performed for all offshore facilities and may include such things as multi-beam echosounder inspections, side scan sonar inspections, depth of burial inspections, and other geophysical surveys.

2.3.2 Onshore Activities and Facilities

In support of Project operations and the necessary maintenance activities, operations and maintenance facilities (O&M Facilities) will be developed that include offices, a control room, training space for technicians and engineers, shop space, and warehouse space for parts and tools. These functions will be co-located, if feasible.

The O&M Facilities will also include pier space for crew transport vessels (CTV) and other larger support vessels. CTVs are purposely built to support offshore wind energy projects; they are typically about 23 m (75 ft) in length and are set up to safely and quickly transport personnel, parts and equipment. It is expected that approximately 1-2 CTV trips will occur daily during the operation period.

The CTVs are typically used in conjunction with helicopters. Helicopters can be used when rough weather limits or precludes the use of CTVs as well as for fast response visual inspections and repair activities, as needed. The helicopter(s) used to support O&M operations would ideally be based at a general aviation airport in reasonable proximity to the O&M Facilities.

Vineyard Wind is in the early stages of evaluating possible locations for the O&M center; possible locations include Martha's Vineyard or New Bedford. Improvements to the selected site may be needed to accommodate Vineyard Wind's needs, such as improvements to existing marine infrastructure (e.g., dock space for CTVs, access, etc.) and to structures (office and warehouse space). The O&M facilities are expected to be located within an existing working harbor. It is expected that Vineyard Wind would lease the site and any needed improvements would be coordinated with lessor.

2.4 Decommissioning

2.4.1 Offshore Activities and Facilities

As currently envisioned, the decommissioning process is essentially the reverse of the installation process. Decommissioning of the Project is broken down into the following steps:

- Retirement in place or removal of offshore cable system (e.g., 66 kV inter-array and 220 kV offshore export cables).
- Dismantling and removal of WTGs.
- Cutting and removal of monopile foundations (and/or jackets) and possible removal of scour protection.
- Removal of ESPs.
- Possible removal of onshore export cables.

The offshore export cables could be retired in place or removed, subject to discussions with the appropriate regulatory agencies on the preferred approach to minimize environmental impacts. If removal is required, the first step of the decommissioning process would involve disconnecting the inter-array 66 kV cables from the WTGs. Next, the inter-array cables would be extracted from their embedded position in the seabed. If protective mattresses or rocks were used to cover portions of the cables, they are expected to be removed prior to recovering the cable.

Prior to dismantling the WTGs, they would be properly drained of all lubricating fluids, according to the established operations and maintenance procedures and the OSRP. Removed fluids would be brought to a port area for proper disposal and / or recycling. Next, the WTGs would be deconstructed (down to the transition piece) in a manner closely resembling the installation process. It is anticipated that almost all of the WTG will be recyclable, with the potential exception of fiberglass components.

After removing the WTGs, the steel transition pieces and foundation components would be decommissioned. Sediments inside the foundations may be removed and temporarily stored on a barge to allow access for cutting. The foundation and transition piece assembly is expected to be cut below the seabed using one or a combination of: underwater acetylene cutting torches, mechanical cutting, or a high-pressure water jet. The portion of the foundation below the cut will likely remain in place. The cut piece(s) would then be lifted out of the water and placed on a barge for transport to an appropriate port area for recycling. Sediments that were previously removed from the inner space of the foundation would be replaced after the foundation is removed. To minimize sediment disturbance and turbidity, a vacuum pump and diver or ROV-assisted hoses would likely be used.

Subject to consultation with the fishing community, appropriate marine fisheries agencies and BOEM approval of the decommissioning plan, the stone scour protection pads could be left in place. Given the very uniform sandy bottom conditions, the stone scour pads could provide useful habitat diversity and will likely have been in place for at least two decades. If removed, the stone would likely be excavated with a clamshell dredge, placed on a barge, and returned to shore for reuse or disposal at an onshore location.

The process of disassembling the ESPs and their foundations will closely resemble the process used to dismantle the WTGs and their foundations.

The decommissioning of the offshore facilities would require the involvement of an onshore recycling facility with the ability to handle the large quantities of steel and other materials from the Project. There are such facilities currently in operation in New England. Currently, the fiberglass in the rotor blades has no commercial scrap value. Consequently, it is anticipated that the fiberglass from the blades would be cut into manageable pieces and then disposed of at an approved onshore solid waste facility.

2.4.2 Onshore Activities and Facilities

Decommissioning of onshore facilities would be coordinated closely with the host town to ensure that decommissioning activities meet the host town's needs and have the fewest environmental impacts. Subject to those future discussions, it is envisioned that the onshore cables, the concrete encased duct bank itself, and vaults would be left in place for future reuse as would elements of the onshore substation and grid connections. If onshore cable removal is determined to be the preferred approach, removal of cables from the duct bank would be done using truck mounted winches, cable reels and cable reel transport trucks.

3. STATE ENFORCEABLE POLICIES

As part of this consistency certification, Vineyard Wind has evaluated and documented in the following table (Table 3-1) policies identified by Massachusetts and Rhode Island as enforceable, applicable offshore and coastal resources or uses, and CZMA "reasonably foreseeable coastal effects" that might be expected for activities conducted under the proposed action. While reviewing and making these certifications on the policies the states have identified as enforceable in this consistency certification, Vineyard Wind has considered the common enforceable policies identified by each of the two states as enforceable in their CMP as listed in Table 3-1.

4. CONSISTENCY CERTIFICATION

Vineyard Wind has evaluated all applicable enforceable policies of Massachusetts and Rhode Island and the potential activities resulting from the Project. This consistency certification has examined whether the proposed action described in Sections 1 and 2 is consistent to the maximum extent practicable with the policies and provisions identified as enforceable by the

CMPs of Massachusetts and Rhode Island (see Table 3-1). Based on the preceding information and analyses, and the incorporated-by-reference COP, Vineyard Wind has certified the Project will be consistent to the maximum extent practicable with the policies that Massachusetts and Rhode Island have identified as enforceable.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Coastal Hazards	Coastal Hazards Policies #1 - 4 (MA) Massachusetts Wetland Protection Act (M.G.L. c.131,§40) (MA) Massachusetts General Law Chapter 91 (MA) RI SAMP Section 1160.2.3 Areas of Particular Concern (RI) RI SAMP Section 1160.3 - 4 Prohibitions and Areas Designated for Preservation and Other Areas (RI)	See Section 6.4 of Volume I of the Construction and Operations Plan (COP) for additional information on impacts to coastal habitats and coastal wetland habitats and ecosystems. Potential impacts to coastal wetlands associated with the Vineyard Wind Project (the "Project") may occur where the offshore export cables make landfall; however, through careful route selection and proper use of construction techniques, the Project is designed to avoid potential wetlands impacts to the maximum extent practicable. • Construction Techniques/Coastal Beach Resource Area: At the Landfall Site at New Hampshire Avenue in Yarmouth, Vineyard Wind prefers an open-trench technique but is also considering the use of horizontal directional drilling (HDD). Open-trench construction would be completed in a shorter period of time, thus minimizing the duration of construction within Lewis Bay and the neighborhood along New Hampshire Avenue. The only coastal landform the open-trench technique would affect would be a small degraded coastal beach that is bordered on each side by existing bulkheads, and a manmade concrete seawall that backs the coastal beach; this impact would be approximately 1,500 square feet. At the Great Island or Covell's Beach Landfall Sites, the transition from offshore to onshore cable would be installed via HDD to avoid impacts to the most sensitive resource areas along and near the shoreline. • Coastal Dune Resource Areas: If the New Hampshire Avenue or Covell's Beach Landfall Sites are used, there will be no impacts to Coastal Dune, as defined in 310 CMR 10.28. If the Great Island Landfall Site is used, there will be some temporary impacts to Coastal Dune on a Barrier Beach, with approximately 4,050 square meters ("m^2") (one acre) of previously-disturbed dune used for the HDD setup, and approximately 610 m^2 (0.15 acres) of Coastal Dune affected along the north side of Great Island Road for installation of the underground duct bank. Disturbed areas will be restored to pre-construction conditions upon completion of construction.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Coastal Hazards (continued)		• **Additional Wetland Resource Areas:** The Project will require some work within additional wetland resource areas, principally Land Subject to Coastal Storm Flowage ("LSCSF"). No above-ground structures or changes to topography are proposed within LSCSF, and the Project will have no effect on flood velocities or floodplain storage capacity, and therefore no permanent impact to LSCSF is anticipated. Project activities along the Offshore Export Cable Corridors in Land Under the Ocean (as defined in 310 CMR 10.25) will not alter bathymetry in a way that would result in any significant changes to hydrodynamics. Impacts to coastal wetlands and habitats could occur from an accidental spill, including inadvertent releases during refueling of vessels, spills potentially resulting from routine maintenance activities required for operations of the Project, spills due to vessel collisions or allisions, and more significant spills that could result from a catastrophic event occurring at or in proximity to the Project. Vessel fuel spills are not expected, and if one occurred, it is likely to be small. According to the USCG, between 2000 and 2011, the average oil spill size for vessels other than tank ships and tank barges in all US waters was 466 liters (123 gallons) (USCG, 2012). Because a diesel fuel or similar fuel spill of this size is expected to dissipate rapidly then evaporate and biodegrade within a few days, impacts to any affected resources would be short-term and localized to the vicinity of the spill. Likewise, the potential for spills will be further minimized as a result of the fact that vessels will be expected to comply with USCG regulations at 33 C.F.R. § 151 relating to the prevention and control of oil spills. Additionally, the Oil Spill Response Plan ("OSRP Plan"), included in Appendix 1-A, will provide for rapid spill response, clean-up, and other measures that should also help to minimize any potential impact to affected resources as it relates to spills and accidental releases that might occur, including spills resulted from catastrophic events. In addition to spills from vessels, impacts to coastal wetlands and habitats could potentially result from the unlikely event of an accidental release of fuel, lubricating oil, or hydraulic oil from construction equipment operating in or adjacent to the Landfall Site. Refueling and lubrication of stationary equipment will be conducted in a manner that protects coastal habitats from accidental spills. A Construction Spill Prevention Control and Countermeasures Plan will be prepared in accordance with all applicable federal, state,

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Coastal Hazards (continued)		and local requirements. This Plan will identify all measures that will be implemented to prevent spills and the best management practices that that will be in place to contain spills that may occur. As described in Section 3.2.5 of Volume I of the COP, existing ports and staging areas in Massachusetts, as well as one or more ports in Rhode Island, Connecticut, or elsewhere along the North Atlantic coastline, would support Project construction. Vineyard Wind will use ports that are suitable for the Project's needs and will not direct or implement any improvements that may be made; therefore, no impacts to natural coastal landforms will occur as result of the Project. Vineyard Wind is in the early stages of evaluating possible locations for operations & maintenance facilities; possible locations include existing working harbors in Martha's Vineyard or New Bedford. Improvements to the finally selected site may be needed to accommodate Vineyard Wind's needs, such as improvements to existing marine infrastructure (e.g., dock space for CTVs, access, etc.) and to structures (office and warehouse space). The Project will not interfere with water circulation or sediment transport processes, alter bottom topography, increase erosion, or impact littoral drift volumes, as defined in the MA CMP's Coastal Hazards Policy #2. No state or federally-funded public works projects, as defined in the MA CMP's Coastal Hazards Policy #3, will occur as a result of the proposed action. Consistent with the RI Ocean Special Area Management Plan (SAMP) Section 1160.3, no Project components will be constructed within Areas Designated for Preservation. Likewise, no Project components will be constructed within "Other Areas" listed in RI SAMP Section 1160.4. If Quonset or Providence Port are utilized, vessels traveling between one of these ports and the Wind Development Area (WDA) may transit within "Areas of high intensity commercial ship traffic in state waters" identified within Section 1160.4. The Navigational Risk Assessment included as Volume III-I of the COP indicates that Project-related vessel traffic (3-4 vessels daily) will only cause a moderate increase in existing traffic (about 25 vessels daily) within the Traffic Separation Scheme approaches to and from ports in Rhode Island, Massachusetts, and Connecticut. Potential impacts will be minimized by the establishment of a vessel traffic management plan to align scheduling of construction activities with port operations.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Energy	Energy Policy #1-2 (MA)	The Project, which involves large-scale offshore wind energy generation and the transmission of that energy to shore, is by nature a coastally-dependent energy facility. An analysis of potential locations for wind energy development was previously conduced by BOEM when designating the Massachusetts Wind Energy Area (MA WEA), in which the Project is located. The Project is consistent with the intent of Energy Policy #2 to encourage "the use of alternative sources such as solar and wind power in order to assist in meeting the energy needs of the Commonwealth." In accordance with the mandate provided by the 2016 energy legislation, the Project will provide the Commonwealth of Massachusetts with ~800 megawatts ("MW") of clean, renewable wind energy.
Habitat	Habitat Policy #1 – 2 (MA) RI SAMP Section 1160.3 Prohibitions and Areas Designated for Preservation (RI)	The Project is designed to avoid impacts to coastal habitats and wetland resource areas to the maximum extent practicable and to minimize and mitigate unavoidable impacts in accordance with applicable federal, state, and local regulations. By complying with performance standards identified in the Massachusetts WPA, the Project will serve the protected interests identified in the statute. Wetlands impacts associated with the Onshore Export Cable Corridors are as follows: • The Covell's Beach Landfall Site and the Western Onshore Export Cable Route includes areas of LSCSF. Coastal beach and coastal dune are near the Landfall Site but would not be affected by the Project; construction impacts would be limited to paved surfaces (public roadway and a paved parking lot). • The New Hampshire Avenue Landfall Site and the Eastern Onshore Export Cable Route includes areas of Coastal Beach LSCSF. The coastal beach at the New Hampshire Avenue Landfall Site is directly seaward of a concrete bulkhead at the end of New Hampshire Avenue, and is bordered by two existing bulkheads on adjacent properties. The beach is relatively narrow, with a width of approximately 50 feet at low tide. At high tide, the beach is confined to a small rectangular area surrounded on three sides by bulkheads and riprap. Installation of the export cable by open trenching would require the temporary installation of cofferdams and would temporarily alter approximately 1,500 square feet of coastal beach.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Habitat (continued)		• The Great Island Landfall Site and the Eastern Onshore Export Cable Route includes areas of LSCSF and coastal dune; the coastal dune is located on a barrier beach If the Great Island Landfall Site is used, approximately 4,050 m2 (one acre) of coastal dune will be impacted by HDD operations north of Great Island Road. The area of the dune that will be affected by HDD staging and operations has been previously disturbed, having once served as a dredge spoil disposal site. Approximately 610 m2 (0.15 acres) of Coastal Dune will also be temporarily affected during construction of the duct bank directly adjacent to Great Island Road. As noted previously, all disturbed areas will be restored to pre-construction conditions. No above-ground structures or changes to topography are proposed within LSCSF. The Project will have no effect on flood velocities or floodplain storage capacity, and therefore no permanent impacts to LSCSF or BLSF are anticipated for any Onshore Export Cable Route. For the New Hampshire Avenue Landfall Site, an area of eelgrass is mapped from a 2015 Massachusetts Department of Environmental Protection survey west of the entrance to Lewis Bay, but this mapped eelgrass can be avoided. At the Great Island Landfall Site, a wider swath of eelgrass beds is mapped just offshore in the 2015 Massachusetts Ocean Management Plan, and it is possible that HDD would not avoid all impacts to these eelgrass beds, though it would minimize potential impacts, and the Project would take steps necessary to ensure compliance with the Massachusetts WPA. No eelgrass habitat has been mapped offshore from the Landfall Site at Covell's Beach. The Offshore Export Cable Corridors are located entirely within Land Under the Ocean. The Export Cable Corridors have been evaluated according to numerous factors, including technical feasibility and environmental considerations, such as the presence of hard bottom habitat, mapped shellfish suitability areas, and the amount of dredging required. The corridors cross some areas of mapped hard bottom and shellfish suitability areas. The Project has sought to avoid impacts to these areas to the greatest extent feasible and will include post-construction benthic monitoring to evaluate impacts and recovery.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Habitat (continued)		No impact to Areas Designated for Preservation within the RI SAMP, which are afforded additional protection than Areas of Particular Concern, are anticipated as a result of the Project. No impacts to Critical Habitat under the Endangered Species Act and no mining and extraction of minerals, including sand and gravel, from tidal waters and salt ponds would occur as a result of the Project. As described in Section 4.2.3.3.2 of Volume I of the COP, some dredging may be required within the Offshore Export Cable Corridor prior to cable laying due to the presence of sand waves. Dredged material is expected to be side-cast. While not anticipated, if any disposal of dredged material in the ocean, as defined in and subjected to regulations of RI Coastal Resources Management Plan (CRMP) Section 300.9, is proposed, it will be conducted in accordance with the U.S. EPA and U.S. Army Corps of Engineers' manual, *Evaluation of Dredged Material Proposed for Ocean Disposal*. The Project does not include the disposal of dredged material in the following Areas of Particular Concern: historic shipwrecks and archaeological or historic sites; offshore dive sites; navigation, military, and infrastructure areas; and moraines. The Project also does not include underwater cables within Areas Designated for Preservation, although underwater cables are exempt from the existing prohibition of any Large-Scale Offshore Development, mining and extraction of minerals, or other development that has been found to be in conflict with the intent and purpose of an Area Designated for Preservation within the Ocean SAMP. Indirect impacts have the potential to occur from a hypothetical fuel spill; however, as discussed above, should an incidental diesel fuel or oil spill occur as a result of the Project, the impacts on coastal habitats are expected to be negligible.
Ocean Resources	Ocean Resources Policies #1-3 (MA)	As described in Section 7.9.1.4 of Volume III of the COP, the Project does not include and will not adversely affect any state-regulated aquaculture, marine mineral resource extraction, or offshore sand and gravel extraction as described in CMP's Ocean Resources Policies #1, #2, and #3, respectively.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Ports and Harbors	Ports and Harbors Policy #1 – 4 (MA) RI SAMP Section 1160.2 (1) and (2) Areas of Particular Concern (RI)	As described in Section 3.2.5 of Volume I of the COP, existing ports and staging areas in Massachusetts, as well as one or more ports in Rhode Island, Connecticut, or elsewhere along the North Atlantic coastline, would support Project construction. Within Massachusetts, Vineyard Wind has signed a letter of intent to the use the New Bedford Marine Commerce Terminal ("New Bedford Terminal"), owned by the Massachusetts Clean Energy Center ("MassCEC"), to support Project construction. The 26-acre New Bedford Terminal is located on the City's extensive industrial waterfront, within a Designated Port Area (DPA), and was purpose built to support offshore wind energy projects. However, given the scale of the Project and the possibility that one or more other offshore wind projects may be using portions of the New Bedford Terminal at the same time, Vineyard Wind may need to stage certain activities from other ports located in Massachusetts, Rhode Island, Connecticut, or elsewhere along the North Atlantic coastline. Potential ports that may be used for the Project are listed in Table 3.2-1 of Volume I of the COP. Vineyard Wind will use ports that are suitable for the Project's needs and will not direct or implement any improvements that may be made; therefore, no impacts to ports and surrounding area will occur as result of Project construction. Vineyard Wind is in the early stages of evaluating possible locations for operations & maintenance facilities; possible locations include existing working harbors in Martha's Vineyard or New Bedford. Improvements to the finally selected site may be needed to accommodate Vineyard Wind's needs, such as improvements to existing marine infrastructure (e.g., dock space for CTVs, access, etc.) and to structures (office and warehouse space). Section 7.7 of Volume III of the COP describes impacts of the Project on land use and coastal infrastructure. Overall, construction and installation impacts are anticipated to be temporary. Installation of duct bank beneath paved roadways will require only minimal disturbance to the adjacent road shoulder and is expected to be completed without significant alteration to any land or infrastructure. Land uses are not anticipated to be impacted or altered upon completion of the construction and installation phase. The number of vessels transiting to New Bedford and other ports under consideration will increase as a result of the Project; potential impacts to navigation are discussed in detail in Appendix III-I of the COP.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas	Protected Areas Policy #1 – 3 (MA) RI SAMP Section 1160.2 Areas of Particular Concern (RI) RI SAMP 1160.3 Prohibitions and Areas Designated for Preservation (RI)	Vineyard Wind is conducting ongoing assessments of historical and archaeological resources within areas potentially affected by the Project. On behalf of Vineyard Wind, Public Archaeology Laboratory ("PAL") completed an archaeological due diligence review of potential Onshore Export Cable Routes as well as the archaeological permit application that are included as Appendix III-G of Volume III of the COP. The desktop archaeological due diligence review was conducted to provide information about known archaeological sites within one-half mile of the potential routes, provide a sensitivity assessment for archaeological resources with the Project Area, and make recommendations regarding the need for consultation with the Massachusetts Historical Commission ("MHC") and additional cultural resource management investigations. For onshore areas, it is anticipated that none of the identified buildings or structures will be altered by proposed underground line construction for either onshore route under consideration. A reconnaissance level archaeological survey is presently underway with an approved archaeological permit from the MHC. The survey will be completed in cooperation with local historical commissions and Tribal Historic Preservation Offices. Potential effects, if any, to archaeological resources will be addressed with the Massachusetts Historical Commission through Section 106 of the National Historic Preservation Act ("NHPA"), 4 U.S.C. 300101 et seq., and the State Register Review processes. No previously-identified archaeological resources are located within the Offshore Export Cable Corridors. A permit was received to conduct a marine archaeological survey from the Massachusetts Board of Underwater Archaeological Resources, and preliminary surveys were completed in August 2017. As described in Section 7.3 of Volume III and Appendix II-C of the COP, the surveys did not identify any shipwrecks or aircraft debris along the Offshore Export Cable Corridors, though one shipwreck was identified in the WDA. More detailed marine geophysical and geotechnical surveys are scheduled for Spring/Summer 2018. If potentially significant marine archaeological resources are ultimately identified, the Proponent will consider alternatives to avoid, minimize, and/or mitigate potential impacts to those resources in compliance with Section 106 of the NHPA and State Register Review, as applicable.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		An evaluation of the Project's visual impacts to historic resources is provided within Appendix III-H.b. of the COP. (An assessment of the Project's general visual impacts is provided within Appendix III-H.a. of the COP and is summarized below under Public Access.) For the onshore substation, no adverse visual effects are anticipated as a result of modifying the substation or constructing an adjacent station (if needed). For offshore Project components, Areas of Potential Effect (APE) were defined using field surveys to identify locations with the potential to view the WDA. As detailed in Appendix III-H.b. of the COP, limited historic properties on Martha's Vineyard, the southwestern coast of Nantucket and their minor outlying islands may have changes in their viewsheds as a result of the Project. However, it is not the viewshed of the property that is being affected, but rather the viewshed from the property, which in some cases is not as significant. Additionally, distance and weather conditions render the WDA not visible during many times of the year. No effect to historic properties on Cape Cod or Cuttyhunk Island is anticipated due to extreme distance from the WDA. The Project is not located within or near, and will not impact, any Areas of Critical Environmental Concern ("ACECs") or state designated scenic rivers, as described in CMP's Protected Areas Policies #1 and #2, respectively. RI SAMP Section 1160.2 includes a prohibition on Large-scale, Small-scale, or other offshore development, or any portion of a proposed project within Areas of Potential Concern (APCs). Consistent with this provision, the Project is not located within any APC, including: • Historic shipwrecks, archaeological or historical sites and their buffers • Offshore dive sites within the Ocean SAMP area • Glacial moraines • Navigation, Military, and Infrastructure area including: designated shipping lanes, precautionary areas, recommended vessel routes, ferry routes, dredge disposal sites, military testing areas, unexploded ordnance, pilot boarding areas, anchorages, and a coastal buffer of 1 km

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		• Areas of high fishing activity as identified during the pre-application process by the Fishermen's Advisory Board • Several heavily-used recreational boating and sailboat racing areas • Naval Fleet Submarine Transit Lanes During construction, Project-related vessels may transit through some of the above APC areas. The Navigational Risk Assessment included as Volume III-I of the COP indicates that Project-related vessel traffic (3-4 vessels daily) will only cause a moderate increase in existing traffic (about 25 vessels daily) within the Traffic Separation Scheme approaches to and from ports in Rhode Island, Massachusetts, and Connecticut. Construction vessels would follow routes similar to regular commercial traffic to port sites in Rhode Island. It is assumed that deep draft construction vessels or those loaded with large components would navigate to the northern traffic separation zone when traveling to a Rhode Island port. Potential impacts will be minimized by the establishment of a vessel traffic management plan to align scheduling of construction activities with port operations. Vineyard Wind will continue to engage with the local pilots to coordinate approaches to the ports so as to minimize risk to navigation when entering the port area, as needed. Furthermore, Vineyard Wind's Marine Coordinator will keep track of all planned vessel deployment and will assist with vessel traffic coordination at Rhode Island ports. The Marine Coordinator will ensure ongoing coordination between the USCG, vessels employed for construction, and other relevant parties such as commercial operators (e.g. ferry, tourist, and commercial fishing vessel operators). The WDA is not located within the RI Recreational boating areas designated as Areas of Particular Concern in state waters. As noted in the preceding paragraph, Project-related vessels may transit through part of this area during construction to access a Rhode Island port. In advance of marine events and sailing regattas, Vineyard Wind will work with the event organizers to promote safe navigation and minimize any conflicts. An assessment of the Project's impacts to fish and a description of use of the Project Area by commercial and for hire recreational fishermen are provided in Sections 6.6 and 7.6 of Volume III of the COP, respectively. In general, impacts to finfish and invertebrate species

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		are expected to be short-term and localized during the construction and installation of the Project. The low total fish biomass and high species richness in the Project Area makes this location ideal for wind energy as it reduces impacts to individual organisms and targets an area which will likely be able to recover following any potential Project-related disturbances. In addition, the Massachusetts Wind Energy Area (MA WEA), in which Vineyard Wind's Lease Area is located, was selected by BOEM to exclude most sensitive fish and invertebrate habitat. As described in detail in Section 7.6 of Volume III of the COP, Vineyard Wind's extensive outreach and conversations with over 100 fishery stakeholders has aided in identifying commercial fishing effort in the WDA. Based on that outreach, the following fisheries could be most affected during construction and installation phase of the Project: • Static gear fisheries (gill nets, traps/pots) • Ground fish/Bottom trawl mobile gear (squid/Fluke/Atlantic Mackerel) • Atlantic Surfclam/Ocean Quahog dredge fishery Many factors, both environmental and regulatory, contribute to productive commercial fishing areas, and as a result, the locations of commercial fishing, and to a lesser extent for-hire recreational fishing activities, are variable. Based on the most recent Vessel Monitoring Systems (VMS) data available, commercial fishing vessel density, a qualitative measure of fishing effort, suggests that vessels targeting groundfish, monkfish, scallop, and ocean quahogs in the WDA are generally Medium-Low to Medium-High. The squid fishery appears to be the most active in the WDA. Vineyard Wind will continue to meet with fishermen to solicit additional information on fishing effort in the WDA, and to ensure that the most accurate and relevant information regarding each of the fisheries in the Project Region is incorporated into the Project's operations plans. Based on the analysis by Kirkpatrick et al. (2017) of commercial fishing activity within the MA WEA, commercial fishing revenue generated from within the MA WEA constitutes small percentages of each fishery's total revenue. As a percentage of revenue, gillnet and bottom trawl vessels, and vessels targeting species from the Small Mesh Multispecies,

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		skate, Monkfish, Surfclam/Ocean Quahog appear most active in the MA WEA. As a percentage of revenue, individual species most harvested from the MA WEA include Silver Hake, Ocean Quahog, skates, and Monkfish. Commercial fishing and for-hire recreational activities also occur along the Offshore Export Cable Corridor (OECC), particularly to the west and east of Muskeget Channel's southerly approach. Commercial shellfishing is also active in and around Lewis Bay, including areas proximate to the three Landfall Sites under consideration. Overall, impacts to fisheries resources during construction are anticipated to be short-term and localized. Pelagic species will be able to avoid construction areas and are not expected to be substantially impacted by construction and installation. Impacts to mobile pelagic fish and invertebrate species include localized and short-term avoidance behavior. These impacts can be minimized or offset through mitigation consisting of a "soft-start" pile driving regime and efficient construction practices. Direct mortality may occur to immobile benthic organisms that are in the direct path of construction processes. Mortality of immobile pelagic egg and larval life stages in the construction area (WDA and OECC) may occur through water withdrawals of the construction vessels. Although eggs and larvae may be entrained and will not survive, loss of many adult fish and population level impacts are not expected as most of these species produce millions of eggs each year and already have low adult survival rates. In addition, mortality of pelagic eggs due to increased suspended sediments is not likely as only low concentration sediment plumes are expected and resettlement will occur quickly (less than five hours in the water column). Burial and mortality of some demersal eggs and sessile organisms is also expected during cable installation in the WDA and OECC, where deposition is greater than one millimeter. However, mortal deposition levels are only expected in small, localized areas in the direct vicinity of the cable routes. Burrowing mollusks in the area, such as quahogs, will likely be able to avoid construction and burial and are only expected to be slightly impacted and exhibit short-term avoidance of the area. Overall, although sessile benthic organisms and demersal species and life stages will incur the brunt of

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		construction impacts, because the impacted area is only a small portion of the available habitat in the area, population level impacts are highly unlikely. Impacts to finfish and invertebrate species are expected to be short-term and localized during the construction and installation of the Project. Impacts to commercial fishing activities due to installation of the offshore cable system may result in temporary disruptions to access of shellfishing areas along the Offshore Export Cable Corridor (OECC). Construction and installation may also cause direct impacts to shellfish in proximity to the cable installation. It is expected that physical habitat will recover from the disturbance and communities begin to repopulate within a few months of construction and installation activities concluding (Dernie et al., 2003; Van Dalfsen & Essink, 2001). Vineyard Wind has designed the site layout using a grid pattern and, in consultation with local fishermen and the US Coast Guard, 1 nautical mile wide transit corridors in a northwest/southeast and northeast/southwest direction have been maintained. Vineyard Wind will not restrict fishing or transit in the Project area, except for temporary safety zones during construction or maintenance. Any such restrictions would be included in Notices to Mariners (NTMs) distributed by Vineyard Wind and the US Coast Guard. Commercial fishing impacts will be further mitigated by ongoing communication via the Fisheries Communication Plan (provided in Attachment III-E of Volume III of the COP) and the use of Fisheries Liaisons and Fisheries Representatives. In addition, Vineyard Wind is developing a framework for a pre- and post-construction fisheries monitoring program to measure the Project's effect on fisheries resources. Vineyard Wind is working with the Massachusetts School for Marine Science and Technology (SMAST) and local stakeholders to inform that effort and design the study. During operations and maintenance, noise generated from the operation of wind farms is anticipated to be minimal and only localized avoidance behaviors are expected; acclimation to the noise over time may occur. The addition of EMF from submarine cables will likely not have an impact on elasmobranchs or other electro-sensitive fish species, as cables will be buried in the substrate or covered with rock or concrete mattresses. The introduction of hard structure habitat through the addition of foundations and associated

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Protected Areas (continued)		scour protection for the wind turbine generators and electrical service platforms will add a complexity to the area that did not exist before and will likely attract species that prefer structured habitat. The WDA is located in water depths greater than 20 meters (65.6 ft) and therefore is not located in a sea duck foraging habitat Area Designated for Preservation (RI Ocean SAMP 1160.3 1(i)). In addition, areas of high sea duck occurrence were removed from the MA Call Area during BOEM's Area Identification process and were likewise excluded from leasing consideration. See Section 6.2 of Volume III of the COP for additional information on birds. No impacts to public recreation areas in MA and RI are anticipated as a result of the Project. As described in Section 1.5.3 of Volume I of the COP, activities at the Landfall Site where transmission will transition from offshore to onshore will not be performed during the months of June through September unless authorized by the host town. Likewise, Vineyard Wind will not conduct activities along the onshore transmission route within public roadway layouts from Memorial Day through Labor Day unless authorized by the host town; such work could extend through June 15 subject to consent from the local Department of Public Works (DPW). Vineyard Wind will consult with the towns regarding the construction schedule. These summer limitations on certain onshore construction activities are shown on the detailed construction schedules included as Figures 4.1-1 and 4.1-2 in Volume I of the COP. Vineyard Wind does not anticipate any new coastal development as a result of the Project and will only use coastal sites for HDD Landfall Sites. Potential impacts to wetlands or other coastal habitats are discussed above in the "Coastal Hazards" section.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Public Access	Public Access Policy #1 (MA) RI SAMP 1160.2 Areas of Particular Concern (RI)	The Project is not anticipated to adversely impact public use and enjoyment of the water's edge. • The Project does not involve development of coastal sites, and will only use coastal sites for HDD Landfall Sites. As described above under Protected Areas and in Section 1.5.3 of Volume I of the COP, activities at the Landfall Site where transmission will transition from offshore to onshore will not be performed during the months of June through September unless authorized by the host town. • As discussed above under Ports and Harbors and as described in Section 3.2.5 of Volume I of the COP, existing ports and staging areas in Massachusetts, as well as one or more ports in Rhode Island, Connecticut, or elsewhere along the North Atlantic coastline, would support Project construction. Vineyard Wind will use ports that are suitable for the Project's needs and will not direct or implement any improvements that may be made; therefore, no impacts to ports and surrounding area will occur as result of Project construction. Vineyard Wind is in the early stages of evaluating possible locations for operations & maintenance facilities; possible locations include existing working harbors in Martha's Vineyard or New Bedford. Improvements to the finally selected site may be needed to accommodate Vineyard Wind's needs, such as improvements to existing marine infrastructure (e.g., dock space for CTVs, access, etc.) and to structures (office and warehouse space). • An assessment of the Project's visual impacts is provided within Appendix III-H.a. of the COP. The distance of the WDA from the nearest coastal vantage point – greater than 23 km (14 mi) - serves to minimize Project visibility from sensitive visual resources. The Project would result in minimal change to landscape conditions for viewers along the Martha's Vineyard and Nantucket coastline. Viewers on the islands will have limited visibility of the Wind Turbine Generators (WTGs) when weather conditions allow. However, at distances greater than 23 km (14 mi) and viewed within the context of the ocean that includes the vast expanse of water, extended beach views and dunes, as well as the sights and

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Public Access (continued)		• sounds of breaking surf and wind, the Project would likely be considered visually subordinate to the wider landscape. The Project will be virtually undetectable from Cape Cod. • An assessment of the Project's visual impacts to historic resources is provided within Appendix III-H.b. of the COP and is summarized above under Protected Resources. Overall, as discussed in Section 7.5 of Volume III of the COP, the Project is not anticipated to have a significant or long-term adverse impact on recreational resources.
Water Quality	Water Quality Policy #1 (MA) (Point Source) Water Quality Policy #2 (MA) (Nonpoint Source) Water Quality Policy #3 (MA) (Groundwater Discharges) Section 401 of the Clean Water Act (33 U.S.C. 1251 et seq.) (MA, RI)	The routine activities associated with the proposed action which would impact coastal and marine water quality include structure installation and removal and vessel discharges (including bilge and ballast water and sanitary waste). Additional information on water quality and impacts to coastal and marine water quality can be found in Section 5.2 of Volume III of the COP. Cable burial operations will occur both in the WDA for the inter-array cables connecting the WTGs to the Electrical Service Platforms (ESPs) and the OECCs for the cables carrying power from the ESPs to landfall. The modeling analyses conducted for the Project indicate that, for both the inter-array cables and the OECCs, mobilized sediment is not transported far by the currents in most cases and settles rapidly. Sediment plumes greater than 10 mg/L typically persist at any given point for less than six hours, and in no case for more than 12 hours. The plume is confined to the bottom three meters (9.8 ft) of the water column, which is usually only a fraction of the water column, and maximum deposition is typically less than five millimeters (0.2 in). Pile driving will be utilized to install the WTG and ESP foundations within the WDA. The potential impacts to water quality via sediment resuspension from repeated hammer blows to the pile would be local to the pile outer diameter and are not anticipated to cause any significant sediment resuspension. HDD may be used, as described in Section 4.2.3.8 of Volume I of the COP, to avoid impacts of standard cable burial techniques in the nearshore region. These activities will only occur in the OECCs. HDD operations may involve temporary removal of sediments from within a partial cofferdam. After cable connection activities are completed, the sediment will be replaced. It is possible that potential, limited sediment releases could occur during the refilling operation but impacts would be localized and short-term.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Water Quality (continued)		Installation of the rocks or stones for scour protection will occur at each WTG and ESP foundation. The area of scour protection will be limited to 2100 square meters ("m^2") (0.52 acres) at each WTG and 2500 m^2 (0.62 acres) at each ESP. Placement of the rock may yield a temporary increase in suspended sediments due to resuspension of bottom sediments as the rock is placed; however, such impacts are anticipated to be a short-term and temporary due to the predominately sandy composition of the upper sediments in the WDA. Dredging along portions of the OECC may result in temporary increased suspended solids in the water due to sediment remobilization. The amount of remobilization will be based upon the advance rate or speed of the equipment and the fraction of the sediment volume mobilized into the water column. It is anticipated that best management practices will be employed to limit sediment resuspension and dispersion during dredging. Additionally, the proposed side-casting is advantageous over other available disposal methods in that it will limit the generation of suspended sediments. Water quality related to suspended sediments from dredging and other construction activities, as appropriate, will be monitored. Details of the monitoring effort will be developed with the appropriate state and federal agencies (Massachusetts Department of Environmental Protection 401 Regulatory Program and the US Army Corps of Engineers) during other permitting processes. The monitoring is anticipated to consist of using a hand-held or similar turbidity sensor deployed from a small vessel to collect turbidity readings from multiple depths within the water column. If determined to be appropriate, collection of water samples for subsequent analysis for total suspended solids (TSS) could be made from the vessel to quantify the sediment concentration in the plume. Background levels outside of the plume for turbidity (and TSS, if appropriate) could also be acquired. Limited water withdrawals during construction may include water for cable installation (if jet plowing is used) and bilge/ballast water. These modest and temporary water withdrawals are not anticipated to have any meaningful impact on water quality. Vessels may discharge some liquid wastes to marine waters in both the WDA and OECCs. These discharges include domestic water, uncontaminated bilge water, treated deck drainage and sumps, uncontaminated ballast water, and uncontaminated fresh or seawater from vessel air conditioning. Bilge water discharges may occur in nearshore and offshore waters provided that

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Water Quality (continued)		the effluent is processed by an approved oily water separator and the oil content is less than 15 parts per million. In navigable waters of the United States, vessels may not discharge any effluent that contains oil that causes a sheen on the surface of the water or an emulsion beneath the water, which is a violation of 40 CFR 110. Bilge water that cannot be discharged in compliance with these standards must be retained onboard the vessel for subsequent discharge at an approved port reception facility per 33 CFR 151.10(f). Ballast water is used to maintain stability of the vessel and may be pumped from coastal or marine waters. Generally, the ballast water is pumped into and out of separate compartments and is not usually contaminated with oil; however, the same discharge criteria for bilge water apply to ballast water (33 CFR 151.10). Ballast water also may be subject to the USCG's Ballast Water Management Program to prevent the spread of aquatic nuisance species. Accordingly, these discharges will not pose a water quality impact. BOEM (2014) determined the following related to potential water quality impacts from routine vessel discharges: "[I]n the WEA, coastal and oceanic circulation and the large volume of water would disperse, dilute, and biodegrade vessel discharges relatively quickly, and the water quality impact would be minor." Other waste generation such as sewage, solid waste or chemicals, solvents, oils and, greases from equipment, vessels or facilities will be stored and properly disposed of on land or incinerated offshore and will not generate an impact. The Project will require all vessels to comply with regulatory requirements related to the prevention and control of discharges and the prevention and control of accidental spills. Spills could occur during refueling, fluid exchange, or as the result of an allision or collision. Oil and other types utilized by the Project are presented in Table 4.2-3 of Volume I of the COP and in Appendix I-A. Vessel fuel spills are not expected, and if one occurred, it is likely to be small. According to the USCG, between 2000 and 2011, the average oil spill size for vessels other than tank ships and tank barges in all US waters was 466 liters (123 gallons) (USCG, 2012). Because a diesel fuel or similar fuel spill of this size is expected to dissipate rapidly and evaporate within days, impacts to any affected resources would be short-term and localized to the vicinity of the spill. The Project has also developed a draft Oil Spill Response Plan, which is included in Appendix I-A of the COP, which will provide for rapid spill response, clean-up, and other measures that should also help to minimize any potential impact to affected resources as it relates to spills and accidental releases that might occur, including spills resulted from catastrophic events.

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Water Quality (continued)		The USEPA National Pollutant Discharge Elimination System (NPDES) storm water effluent limitation guidelines control storm water discharges from support facilities such as ports and harbors. The Project is not anticipated to increase runoff or onshore discharge into harbors, waterways, coastal areas, or the ocean environment. The Project does not proposed any subsurface waste discharges
Historical Properties	Protected Areas Policy #3 (MA) Rhode Island Historical Preservation Act and Antiquities Act (RI) RI SAMP Section 1160.1.12-17 Overall Regulatory Standards (RI) RI SAMP Section 1160.2.3(i) Areas of Particular Concern (RI)	A Marine Archaeology Assessment and a Visual Impact Assessment (including visual impacts to historic resources) have been conducted for the Project. These assessments are included as Appendices II-C, III-H.a and III-H.b of the COP, respectively. As described above under Protected Areas, on behalf of Vineyard Wind, Public Archaeology Laboratory ("PAL") completed an archaeological due diligence review of potential Onshore Export Cable Routes as well as the archaeological permit application that are included as Appendix III-G of Volume III of the COP. The desktop archaeological due diligence review was conducted to provide information about known archaeological sites within one-half mile of the potential routes, provide a sensitivity assessment for archaeological resources with the Project Area, and make recommendations regarding the need for consultation with the Massachusetts Historical Commission ("MHC") and additional cultural resource management investigations. For onshore areas, it is anticipated that none of the identified buildings or structures will be altered by proposed underground line construction for either onshore route under consideration. A reconnaissance level archaeological survey is presently underway with an approved archaeological permit from the MHC. The survey will be completed in cooperation with local historical commissions and Tribal Historic Preservation Offices. Potential effects, if any, to archaeological resources will be addressed with the Massachusetts Historical Commission through Section 106 of the National Historic Preservation Act ("NHPA"), 4 U.S.C. 300101 et seq., and the State Register Review processes. No previously-identified archaeological resources are located within the Offshore Export Cable Corridors. A permit was received to conduct a marine archaeological survey from the Massachusetts Board of Underwater Archaeological Resources, and preliminary surveys were completed in August 2017. As described in Section 7.3 of Volume III and Appendix II-C of the COP, the surveys did not identify any shipwrecks or aircraft debris along the Offshore Export Cable Corridors, though one shipwreck was identified in the Wind Development Area (WDA).

Table 3-1 Applicable Enforceable Policies for the Coastal Management Programs for Massachusetts and Rhode Island (Continued)

CATEGORY	ENFORCEABLE POLICIES: APPLICABLE COASTAL ZONE MANAGEMENT RULES	REASONABLY FORESEEABLE COASTAL EFFECTS (CZMA COASTAL EFFECTS)
Historical Properties (continued)		More detailed marine geophysical and geotechnical surveys are scheduled for Spring/Summer 2018. If potentially significant marine archaeological resources are ultimately identified, the Proponent will consider alternatives to avoid, minimize, and/or mitigate potential impacts to those resources in compliance with Section 106 of the NHPA and State Register Review, as applicable. An assessment of the Project's visual impacts, including visual impacts to historic resources, is provided within Appendices III-H.a. and III-H.b. of the COP. For the onshore substation, no adverse visual effects are anticipated as a result of modifying the substation or constructing an adjacent station (if needed). For offshore Project components, Areas of Potential Effect (APE) were defined using field surveys to identify locations with the potential to view the WDA. As detailed in Appendix III-H.b. of the COP, limited historic properties on Martha's Vineyard, the southwestern coast of Nantucket and their minor outlying islands may have changes in their viewsheds as a result of the Project. However, it is not the viewshed of the property that is being affected, but rather the viewshed from the property, which in some cases is not as significant. Additionally, distance and weather conditions render the WDA not visible during many times of the year. No effect to properties on Cape Cod or Cuttyhunk Island is anticipated due to extreme distance from the WDA.
Growth Management	Growth Management Policy #1 (MA)	This Project is proposed in response to the Commonwealth's 2016 *An Act to Promote Energy Diversity* and is located within the Massachusetts WEA. The WEA location was carefully selected by BOEM through a process that involved significant public input. The WDA is located approximately 23 km (14 miles) south of Martha's Vineyard and Nantucket in federal waters. A Visual Impacts Assessment for the wind turbines has been prepared and is included in Appendices III-H.a and III-H.b. The offshore cable and its Landfall Site will not be visible, and therefore will not alter local community character. Additionally, the Project's proposed onshore substation is located adjacent to the existing Barnstable Switching Station, so will be compatible with existing land uses.

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