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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Vineyard Wind Connector 2
PROJECT MUNICIPALITY	: Barnstable, Edgartown, Mashpee and Nantucket
PROJECT WATERSHED	: Cape and Islands
EEA NUMBER	: 16231
PROJECT PROPONENT	: Vineyard Wind LLC
DATE NOTICED IN MONITOR	: April 7, 2021

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Draft Environmental Impact Report (DEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations. The Proponent may prepare and submit for review a Final Environmental Impact Report (FEIR).

The project is a component of an 800-megawatt (MW) wind energy generating facility known as Park City Wind (PCW) to be constructed approximately 19 miles south of Martha's Vineyard. The generating facility will occupy a section of the Proponent's 261-square mile (166,866 acres) Lease Area designated as OCS-A 0501 that was awarded to the Proponent through a competitive lease sale conducted by the federal Bureau of Ocean Energy Management (BOEM). The Proponent plans to construct three wind generating facilities in the OCS-A 0501 lease area. The first, known as Vineyard Wind, is located in the northern part of the lease area; components of the transmission infrastructure associated with the Vineyard Wind project, known as the Vineyard Wind Connector 1 (VWC1) completed MEPA review in 2019 (EEA #15787). The PCW project and a third project will be located in the Southern Wind Development Area (SWDA) occupying the southern part of the OCS-A 0501 lease area. The PCW project is being developed in response to a solicitation for a commercial-scale wind project by the Connecticut Department of Energy and Environmental Protection, but will utilize a cable corridor in

Massachusetts state waters and make landfall in Barnstable, MA. According to the ENF, while the power from the project is being purchased by electric distribution companies in Connecticut, it will have a regional benefit by displacing fossil fuel-generated electricity in the electric grid operated by the Independent System Operator-New England (ISO-NE). The project will result in avoided emissions of 1.59 million tons per year (tpy) of carbon dioxide equivalent (CO_2e), 850 tpy of oxides of nitrogen (NO_x) and 450 tpy of sulfur dioxide (SO_2).

Major elements of the PCW project include a wind turbine array with 50 to 81 wind turbine generators (WTG) that each will have a generating capacity of 10 to 16 MW; offshore electrical service platforms (ESPs); inter-array cable connections between WTGs and ESPs; offshore export cables; onshore export cables; and an onshore substation. The offshore export cables will follow an approximately 63-mile long route from the WTG array to the landfall site at Craigville Beach in Barnstable. The components of the project located within Massachusetts state waters are known as the Vineyard Wind Connector 2 (VWC2), which is the project name used for purposes of state permitting within the Commonwealth.

Project Description

The DEIR expanded on the ENF to provide a more detailed description of project components. As described below, project components within the Commonwealth include approximately 23-mile long segments of the two offshore export cables, approximately four miles of onshore export cables in underground conduits and a new electrical substation.

Offshore Export Cables

Each 10-inch diameter offshore export cable will include a three-core 220-kilovolt (kV) or 275-kV alternating current (AC) cable and a fiber optic cable. The offshore export cables will be installed primarily in soft sediments using a trenching tool to create a 3.3-ft wide trench in which the cable will be buried to a depth of five to eight feet (1.5 to 2.5 meters) and covered with sediment. The offshore export cables will be typically installed at a rate of 100 meters (328 ft) to 200 meters (656 ft) per hour will occur 24 hours per day (approximately 1.5 miles to 3.0 miles per day). The cables will be separated from each other by a minimum of 165 ft (50 meters); the cable pair will be at least 330 ft (100 meters) west of the nearest VWC1 offshore export cable, a distance that may be even greater in deeper waters. According to the DEIR, the offshore export cables are anticipated to be installed primarily using a technique that simultaneously lays and buries the cable, such as a jet plow or mechanical plow. These trenching tools move along the seafloor on skids or tracks that are up to five feet wide. Cable installation will be done using vessels that pull the trenching tool and maintain position along the route by repositioning anchors. According to the DEIR, installation of an offshore export cable requires a dedicated complement of construction vessels; therefore, one cable will be installed at a time. Approximately two months prior to commencement of cable laying activities, a grapnel run will be made along the proposed cable route to clear obstructions, such as abandoned fishing gear and other marine debris.

In areas where mobile sand waves are present on the ocean floor, the trench will be dredged using either a trailing suction hopper dredge (TSHD) or, for sand waves less than 6.6 ft high, jetting by controlled flow excavation. Sediment dredged using TSHD will be discharged onto a dredge barge, then released back into the water column in an area with sediments similar

to the dredged material. To adequately bury the cables in areas with large sand waves, the trench for each cable may be dredged with 3:1 side slopes and a bottom width of 50 ft. Where subsurface conditions prevent burial of the cable it will be placed on the seafloor and covered with protective armoring, which may include covered by rock, gabion rock bags, concrete mattresses or half-shell pipes. According to the DEIR, it is not anticipated that the VWC2 cable will cross over other cables along the route; however, some cable crossings may become necessary with other non-VW projects proposed along the same cable corridor, and in such instance, cable protection would also be required if a crossing is necessary.

The offshore export cables will be installed within an Offshore Export Cable Corridor (OECC) that was identified through the results of marine surveys conducted by the Proponent in connection with the review and permitting of the VWC1 project. The DEIR described conditions within an expanded OECC based on additional surveys conducted in 2020. Compared to the OECC delineated for the VWC1 project, the OECC has been expanded by 985 ft (300 meters) to the west and by 985 ft to the east through a section of Muskeget Channel; however, the VWC2 offshore export cables will be installed entirely within the OECC as originally described and not within the expanded areas. As expanded, the OECC ranges in width from 3,100 ft to 5,100 ft along the portions located in Massachusetts state waters, with a typical width of 3,800 ft. The OECC follows a generally northerly route from the PCW turbine array to the landfall site. It enters state waters between Martha's Vineyard and Nantucket near Muskeget Channel, veers to the east to avoid the deepest parts of Muskeget Channel where currents are strongest and important rocky benthic habitat is present, then turns west and follows a route parallel to the southeastern shoreline of Martha's Vineyard and less than a mile from shore. Northeast of Martha's Vineyard, an approximately six-mile long section of the OECC is located within a part of Nantucket Sound that is outside of State waters; it then follows a northeasterly route in State waters to the landfall site at Craigville Beach in Barnstable. Installation of the offshore export cables by trenching will stop approximately 1,000 feet from shore.

Onshore Export Cables

The export cables will be transitioned from the offshore environment to landfall at Craigville Beach through 1,000- to 1,200-ft long conduits located approximately 30 ft below the coastal surface. The conduits will be installed in a tunnel excavated using Horizontal Directional Drilling (HDD). The HDD construction technique involves excavation of a approach pit within the Craigville Beach parking lot, and drilling a one-inch to three-inch pilot hole from the approach pit, below the beach and other coastal wetland resource areas, to the offshore location where the cable trenching will terminate. After the pilot hole has been established, the end of the drill will be fitted with a cutter head and pulled back to the approach pit to create a hole of sufficient diameter for a conduit to be pulled through. Once the conduit is installed, the offshore export cables will be pulled through the conduit into an onshore underground vault, where the three conductors in each offshore export cable (a total of six conductors) will be separated. Activities associated with transitioning the offshore export cables onto land, including HDD operations, will take 15 weeks to complete.

Each of the six onshore cables containing a conductor will be approximately six inches in diameter. The cables will be installed in a separate conduit within a buried concrete duct bank. The duct bank carrying the cables will be buried to a typical depth of three feet primarily within existing roadways. The duct bank will follow an approximately 4.0-mile long northerly

route to the site of the proposed substation. From the Craigville Public Beach parking lot, the duct bank will follow Craigville Beach Road for 0.5 miles, including a crossing under the Centerville River. From the northern terminus of Craigville Beach Road, the duct bank will continue north on Main Street for 0.5 miles and Old Stage Road for 0.7 miles before crossing Route 28. From the north side of Route 28, the duct bank will follow Shootflying Hill Road for 2.1 miles then turn southeast and travel 0.2 miles along an electric transmission right-of-way (ROW) identified as ROW #343 to the site of the proposed substation. Precast concrete underground vaults will be constructed along the duct bank route at approximately 1,500 ft to 3,000 ft intervals. Once the duct bank is installed, each onshore export cable will be pulled through a conduit between underground vaults. The duct bank will be installed during the off-season to minimize traffic disruptions, and typically advances at a rate of 80 ft to 200 ft per day. A section of the duct bank route coincides with the route of a planned sewer project to be undertaken by the Town of Barnstable. The projects will be coordinated to minimize impacts. The Town will excavate a trench and install its sewer, after which the Proponent will install its duct bank above the sewer, close the excavation and install temporary and permanent paving.

The conduit will be installed under the Centerville River using a microtunnel. This construction technique involves the excavation of a jacking shaft on the southwest side of the river at 2 Short Beach Road, which the Proponent has exclusive option to purchase, and a receiving shaft on the north side of the river within the Town of Barnstable's roadway layout. Both the jacking shaft and receiving shaft will be landward of the riverbanks. A microtunnel will be excavated by pushing a microtunnel boring machine (MTBM) from the bottom of the jacking shaft to the receiving jack. As the microtunnel is excavated, a concrete casing pipe will be lowered into the jacking shaft and will be used to push the MTBM northward; this process will be repeated until the MTBM reaches the receiving shaft and a continuous casing pipe extends between the shafts, through which the casing will be pulled to complete the river crossing. The microtunnel will be excavated at a depth that will provide a clearance of at least 10 feet between the bottom of the river and the top of the casing.

Substation and Interconnection

The voltage of the power transmitted from the wind turbine generators (either 220-kV or 275-kV) will be stepped-up to 345-kV before the power is transmitted to the regional electrical grid. The conversion to 345-kV will take place at a proposed (new) 5.4-acre substation at 8 Shootflying Hill Road. The substation will consist of an approximately 11.000-sf, 345-kV gas-insulated substation (GIS) switchgear building with a control room at the center of the site. Additional electrical equipment to be installed at the substation includes a 275-kV GIS switchgear building, transformers, shunt reactors, shunt filters and two static compensators (STATCOM). To minimize off-site noise impacts, the STATCOM units will be placed within a three-sided sound barrier measuring 400 ft long and 30 ft high at the western edge of the site, and smaller three-sided sound barriers will be constructed around transformers and shunt reactors on the eastern part of the site. The substation will be enclosed by a fence around the perimeter of the site with a 30-ft wide vegetated buffer on the western side and a planting strip along the north side.

Six 345-kV transmission cables will convey the electricity from the substation to the existing 345-kV Eversource West Barnstable Substation off Oak Street and adjacent to Route 6. The West Barnstable Substation will be expanded to accommodate the power transmitted by the

project. The transmission cables will be installed within a duct bank to be installed along a 0.7-mile long route within three existing electric transmission ROWs (ROW #343, ROW #345 and ROW #381) and will cross Route 6 to reach the West Barnstable Substation. To minimize disruption to traffic on Route 6, the duct bank will be installed under the highway using a trenchless construction technique called pipe jacking. A 35-ft by 35-ft jacking shaft will be excavated on the north side of Route 6 and a 24-ft by 15-ft receiving shaft excavated on the south side. Hydraulic jacks will push a 60-inch or 72-inch diameter casing pipe from the jacking shaft to the receiving shaft. The diameter of the casing was selected to be large enough to remove any boulders encountered along the route. The tunnel will be 5 ft to 11 ft below the highway median strip and 26 ft to 40 ft below the travel lanes.

Decommissioning

The project is anticipated to be in operation for 30 years. Decommissioning of project components in state waters will include removal or retirement in place of the offshore export cables and possible removal of onshore export cables. According to the DEIR, decommissioning of project components on land will be coordinated with the Town of Barnstable to minimize impacts associated with potential removal of infrastructure within public streets, and may include leaving underground project components in place. According to the DEIR, the removal process for offshore export cables may require removal of armoring and the use of a plow to fluidize sediment around the cables so that they can be reeled up onto barges.

Project Schedule

Onshore construction, including the substation, duct bank and work at the landfall site is anticipated to commence in 2023. Offshore construction, including the windfarm and installation of the offshore export cable, is expected to start in 2024 and commercial operation is anticipated to start in 2025.

Project Site

The OECC extends from the southern portion of Nantucket Sound between Martha's Vineyard and Nantucket, enters an area in Nantucket Sound that is outside of state waters, then reenters state waters south of Barnstable. All sections of the cable route within state waters lie within the Cape and Islands Ocean Sanctuary (CIOS) and the Massachusetts Ocean Management Plan (OMP) planning area.

The new substation for conversion to 345-kv is proposed on a 6.7-acre site on Shootflying Hill Road. A motel is located on the northern portion of the site and the southern portion is wooded. The site is bordered to the north by Shootflying Hill Road and Route 6, to the west by a residential neighborhood, to the south by ROW #343 and to the east by land owned by the Massachusetts Department of Transportation (MassDOT) and the Cape Cod Chamber of Commerce. The site is located within the Zone II Wellhead Protection Area of a public drinking water supply well for the Town of Barnstable. The West Barnstable Substation is bordered to the south by Route 6, to the east by undeveloped land, to the north by the Oak Street Substation and to the west by undeveloped land and Oak Street.

According to the Natural Heritage and Endangered Species Program (NHESP), the offshore and landfall portions of the project will be located within areas of Priority and Estimated Habitat for rare species. The offshore cable route passes through habitat of Roseate Tern (*Sterna dougallii*)[1], Common Tern (*Sterna hirundo*), Least Tern (*Sternula antillarum*) and Piping Plover (*Charadrius melodus*).[2] Northern Right Whale (*Eubalaena glacialis*), Humpback Whale (*Megaptera novaeangliae*), marine birds such as Long-tailed Duck, Northern Gannet, Razorbill, Wilson's Storm Petrel, fulmars, loons, scoters, and shearwaters, and Loggerhead (*Caretta caretta*) and Leatherback (*Dermochelys coriacea*) sea turtles have been observed throughout Nantucket Sound.

The Massachusetts Division of Marine Fisheries (DMF) has indicated that the OECC includes areas of commercial and recreational fishing and habitat for a variety of invertebrate and finfish species, including channeled whelk (*Busycotypus canaliculatus*), knobbed whelk (*Busycon carica*), longfin squid (*Doryteuthis pealeii*), summer flounder (*Paralichthys dentatus*), windowpane flounder (*Scophthalmus aquosus*), scup (*Stenotomus chrysops*), surf clam (*Spisula solidissima*), sea scallop (*Argopecten irradians*), quahog (*Mercenaria mercenaria*), horseshoe crabs (*Limulus polyphemus*), and blue mussel (*Mytilus edulis*). Blue mussel and kelp (*Saccharina latissima*) aquaculture operations are also located within Horseshoe Shoals (a subtidal area of Nantucket Sound). Waters offshore of Craigville Beach contain mapped eelgrass (*Zostera marina*) habitat.

As shown on the Federal Emergency Management Agency's (FEMA) National Flood Insurance Rate Map (FIRM) numbers 250010563J and 250010564J (effective July 16, 2014), Craigville Beach is located in a coastal flood zone with a velocity hazard (VE zone) with a base flood elevation (BFE) of 15 ft NAVD 88. The areas north of Craigville Beach and adjacent to the Centerville River are located within the 100-year floodplain (Zone AE) with BFEs of 13 ft and 13 ft NAVD 88, respectively.

The Massachusetts Board of Underwater Archaeological Resources (BUAR) has identified Nantucket Sound as an area of high sensitivity that is rich in submerged ancient Native American cultural resources and shipwrecks. A number of properties included in the Massachusetts Historical Commission (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (Inventory) and State and National Registers are located along the proposed onshore segment of the transmission route. The offshore export cables will be located within the Nantucket Sound Traditional Cultural Property (TCP; MHC #BRN.9072, CHA:938, DEN.930, EDG.907, FAL.973, HRW.918, MAS.916, NAN.939, OAK.902 and TIS.904), which includes paleolandforms on Nantucket Shoals that were identified during marine archaeological surveys conducted for VWC1. In addition, the Chappaquiddick Island Traditional Cultural Property, which was defined as part of the VWC1 project federal cultural resources identification effort, includes several historic and archaeological resources listed in the Inventory.

<u>Environmental Impacts and Mitigation</u>

[1] Species also federally protected pursuant to the U.S. Endangered Species Act (ESA, 50 CFR 17.11).
[2] Ibid.

Potential environmental impacts of onshore components of the project include creation of 0.2 acres of impervious area; alteration of 7.0 acres of land; alteration of 0.4 miles (2,000 linear feet (lf)) of Land Subject to Coastal Storm Flowage (LSCSF), 0.1 miles (730 lf) of Riverfront Area and 0.2 miles (1,100 lf) of Barrier Beach in connection with installation of the onshore duct bank and HDD operations; and alteration of 10,500 sf of Barrier Beach and 10,130 sf of Riverfront Area associated with the use of the microtunnel method to install the duct bank under the Centerville River. Potential environmental impacts of offshore components include alteration of 123.7 acres of Land Under the Ocean (LUO), including 18 acres from trenching, 56 acres from plow skids, 25 acres from sand wave dredging, 12.7 acres from anchoring and 12 acres form cable protection. The project will dredge up to 252,490 cubic yards (cy) of sediment in connection with installation of the offshore export cables, including 106,000 cy of material to be dredged from sand waves and 146,490 cy of sediment to be fluidized during trenching operations. Both onshore and offshore components of the project will be located in rare species habitat and in areas with cultural, historic and archaeological resources, and may potentially require the use of open space protected under Article 97 of the Amendments to the Constitution of the Commonwealth.

The project will generate clean renewable energy that will minimize GHG emissions. Measures to avoid, minimize, and mitigate environmental impacts identified in the DEIR include selecting a route that minimizes impacts to sensitive habitats, using cable installation methods with temporary impacts within a narrow footprint, using HDD, microtunneling and pipe jacking to minimize impacts to roadways and nearshore coastal wetlands and implementation of noise and stormwater management measures at the proposed substation.

Permitting and Jurisdiction

The project is undergoing MEPA review and is subject to preparation of a mandatory EIR pursuant to 301 CMR 11.03(3)(a)(1)(b) and 301 CMR 11.03(7)(a)(4) because it requires State Agency Actions and will result in the alteration of ten or more acres of any other wetlands (LUO) and involves construction of electric transmission lines with a capacity of 230 or more kV, provided the transmission lines are five or more miles in length along new, unused or abandoned ROW. It also exceeds ENF thresholds at 301 CMR 11.03(3)(b)(1)(a) (alteration of coastal dune), 301 CMR 11.03(3)(b)(3) (dredging of 10,000 or more cy of material) and 301 CMR 11.03(7)(b)(4) (construction of electric transmission lines with a capacity of 69 or more kV that are over one mile in length). The project may meet or exceed ENF review thresholds at 301 CMR 11.03(1)(b)(3) (conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97) and 301 CMR 11.03(2)(b)(2) (disturbance of greater than two acres of designated priority habitat that results in a take of a state-listed rare species).

The Project will require a Section 401 Water Quality Certification (WQC) and a Chapter 91 (c. 91) License from the Massachusetts Department of Environmental Protection (MassDEP); Approval under MGL Chapter 164 Sections 69J and 72, and Chapter 40A Section 3 Zoning Exemption from the Energy Facility Siting Board (EFSB) and the Department of Public Utilities (DPU); a Road Crossing Permit from the Massachusetts Department of Transportation (MassDOT); Field investigation permits from MHC and BUAR; and Federal Consistency review by the Massachusetts Office of Coastal Zone Management (CZM). It may require a Conservation and Management Permit (CMP) from NHESP. The Project is subject to reviews under the OMP,

Ocean Sanctuaries Act and the MEPA Greenhouse Gas (GHG) Emissions Policy (the Policy), and it may require Article 97 legislation.

The project requires Orders of Conditions from conservation commissions in Barnstable, Edgartown, Yarmouth, Nantucket and, potentially, Mashpee (or in the case of an appeal, Superseding Orders of Conditions from the Massachusetts Department of Environmental Protection (MassDEP)). It requires Development of Regional Impact (DRI) review from the Cape Cod Commission (CCC) and Martha's Vineyard Commission (MVC).

The PCW project, including the VWC2 components in state waters, require approvals from BOEM[3]; an Individual Permit from the Army Corps of Engineers (ACOE) under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (Section 10); a Letter of Authorization or Incidental Harassment Authorization from the National Marine Fisheries Service (NMFS); Private Aids to Navigation authorization from the U.S. Coast Guard (USCG); a No Hazard Determination from the Federal Aviation Administration (FAA); consultation with MHC in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and M.G.L. Chapter 9, Sections 26-27C; and a National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Outer Continental Shelf Air Permit from the Environmental Protection Agency (EPA).

Because the Proponent is not seeking State Financial Assistance, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required Permits or within the area subject to a Land Transfer that are likely, directly or indirectly, to cause Damage to the Environment. The subject matter of the EFSB/DPU approvals, OMP review and the c. 91 License are sufficiently broad such that jurisdiction is functionally equivalent to full scope jurisdiction and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment.

Review of the DEIR

The DEIR was generally responsive to the Scope included in the ENF Certificate. It included a detailed description and plans of existing conditions along the cable route and proposed structures. It described potential environmental impacts, identified mitigation measures and reviewed alternatives for routing, siting, design and construction of project components within the Commonwealth. The DEIR provided background information regarding the portion of the project occurring beyond state waters and associated impacts on important resources and activities in the Commonwealth, such as commercial fisheries, navigation and rare species. It provided technical appendices with a sediment transport model, stormwater management report for the substation site, a report summarizing modeled electric and magnetic fields (EMF) associated with the onshore and offshore cables, a draft Piping Plover Protection Plan, a Fisheries Communication Plan and natural resource inventories of locations where project

[3] During its review, BOEM must comply with its obligations under the National Environmental Policy Act (NEPA), the NHPA, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), the Migratory Bird Treaty Act (MBTA), the Clean Air Act (CAA), and the Endangered Species Act (ESA). BOEM will coordinate/consult with other Federal agencies including NMFS, United States Fish and Wildlife Service (USFW), EPA, and USGC). BOEM will also coordinate with the State pursuant to the Coastal Zone Management Act (CZMA).

activities will occur on land. During the review period, the Proponent supplemented the DEIR with additional information regarding post-construction monitoring, benthic resource characterization, fisheries and avian monitoring and mitigation and cable protection options.[4] The DEIR provided an update on the local, state and federal review and permitting processes, and identified key data and information that are currently unavailable but will be provided as part of the FEIR.

Alternatives Analysis

The DEIR reviewed the alternatives analysis provided during MEPA review of the VWC1 project and documented the rationale for the selection of the OECC as the Preferred Alternative. The Proponent reviewed alternative interconnection points, including Kent County Substation in Rhode Island, Brayton Point in Somerset, Pine Street Substation in New Bedford, Canal Station in Sandwich, Falmouth Tap Switching Station, Falmouth Substation, Bourne Substation, Mashpee Substation, West Barnstable Substation, Barnstable Switching Station, and Pilgrim Station in Plymouth. Interconnection points that would require an offshore cable route longer than 71 miles or did not have sufficient transmission capacity were eliminated from further consideration. The alternatives analysis identified the West Barnstable Substation and the Barnstable Switching Station as the only two feasible interconnection points; the West Barnstable Substation was selected as the interconnection point for VWC1 and the VWC2 project will interconnect at the West Barnstable Substation. The analysis of potential landfall sites for these interconnection points identified several locations on the Barnstable coastline, including the Covell's Beach landfall site that was adopted as the Preferred Alternative for VWC1 and is identified in the DEIR as Variant 1 of the Preferred Alternative for VWC2, which established a general location of the northern end of the OECC. The Proponent evaluated two routes through Nantucket Sound, an eastern route and a western route; the eastern route was adopted as the OECC due to environmental and engineering considerations.

In response to the Scope included in the ENF Certificate, the DEIR addressed the feasibility of using the Covell's Beach landfall site and a set of conduits installed by HDD at the same time for both VWC1 and VWC2. According to the DEIR, landfall at Covell's Beach for VWC2 would add 0.4 miles to the onshore route to the proposed substation, which would increase the area impacted by construction activities. In addition, the current design of the VWC1 landfall would constrain the use of that site for another landfall, and use of a shared set of conduits would risk damaging the first set of cables when the second set is installed. In addition, it is not feasible to definitely plan to co-locate cables within a shared set of HDD conduits when permitting is not complete for either project, and because construction would necessarily occur on different schedules, co-location would have little benefit from the perspective of minimizing construction impacts. For the same reasons, it is not feasible to design either landfall site to accommodate the planned third wind energy generating facility planned for the SWDA.

The DEIR included an evaluation of the feasibility of a shared transmission design for all Vineyard Wind projects and potentially for Vineyard W and non-Vineyard Wind projects, which potentially would minimize impacts by avoiding the need for each offshore windfarm to install separate transmission cables between the generating facility and landfall location. According to the DEIR, a shared transmission system is not feasible because interconnections to the grid are

[4] Letter dated May 28, 2021 from Holly Carlson Johnston to Tori Kim.

limited to 1,200 MW from a single source, a limit that would be exceeded by more than one 800-MW windfarm. In addition, shared transmission would not avoid impacts associated with cable connections between windfarms and the shared transmission system and would likely require more than one landfall sites for transmission to interconnection sites.

Ocean Management Plan

The project is subject to review under the OMP, which maps important ecological resources that are key components of the state's estuarine and marine ecosystems— defined as "special, sensitive or unique resources" (SSU)—and identifies key areas of water-dependent uses including commercial and recreational fishing and navigation. The relevant SSUs for cable projects identified in the OMP include intertidal flats, North Atlantic Right Whale Core habitat, Fin Whale Core Habitat, Humpback Whale Core Habitat, eelgrass and areas of hard/complex seafloor; of these SSUs, only eelgrass and hard/complex seafloor are located within the OECC. The project is also located within areas of commercial and recreational fishing and navigation in Nantucket Sound that were mapped in the OMP.

According to the DEIR, surveys of benthic conditions in the OECC were previously conducted in connection with the VWC1 project and included 2,307 nautical miles of geophysical trackline data using a multibeam echosounder, side scan sonar, magnetometer, and sub bottom profiler, 123 vibracores, 83 cone penetrometer tests (CPT)[5], 82 benthic grab samples with still photographs and 50underwater video transects. These data were supplemented with surveys conducted in 2020 of expanded areas of the OECC, including 680 nautical miles of geophysical trackline data, eight vibracores, six CPTs, 44 benthic grab samples with video and 30 video transects. The DEIR provided a series of maps of the OECC showing locations of video transects, vibracores and grab samples; delineations of hard/complex seafloor and habitat associated with biogenic structures; representative photos of benthic conditions; symbols representing habitat types based on interpretation of video transects; and bathymetry. As requested by CZM and DMF, a revised classification of these resources should be provided in the FEIR using the Coastal and Marine Ecological Classification Standard (CMECS), which is now required for federal permitting. In addition, a spreadsheet of the surficial sediment and coring data, photos, videos, and Geographic Information System (GIS) shapefiles of mapped seafloor features used to make the maps of the OECC should be provided to CZM and DMF.

Based on the Proponent's surveys, hard/complex benthic conditions present along sections of the proposed cable route include coarse material, such as gravel, boulders and cobble, in the southern part of the OECC in the Muskeget Channel area; morphologically rugged seafloor conditions characterized by high variability in bathymetric aspect and gradient, such as sand waves, which are located throughout the OECC in state waters; and eelgrass, located southeast of the landfall site and to the west of the OECC on Cape Poge, Martha's Vineyard. According to the DEIR, installation of the offshore export cables will impact 7.7 acres of hard/complex seafloor, including 1.8 acres of hard seafloor conditions consisting of gravel, boulders and cobble and 5.9 acres of sand waves. These SSU impact estimates are based on trenching with a jet plow or mechanical plow, and do not include potential impacts from

[5] A cone penetration test involves the insertion of a metal rod with a cone at its tip to a depth of three meters to measures sediment properties that will help determine the suitability of the sediment for cable burial to assess submerged paleofeatures.

placement of anchors on the seafloor, anchor line sweep and armoring for cable protection. Dredging using a TSHD will impact an additional 25 acres of sand waves (106,000 cy of sediment).

OECC

As noted above, the project will be located within the OECC surveyed in connection with the planning and permitting of VWC1. The DEIR included the results of marine surveys describing benthic conditions in areas adjacent to the OECC that result in an expanded corridor ranging in width from 3,100 ft to 5,100 ft, with a typical width of 3,800 ft. The Scope included in the ENF Certificate required the Proponent to clarify whether the expanded OECC is necessary to accommodate VWC2 due to cable spacing or other requirements, or reserved for transmission cables from future buildout of the SWDA. As presented in the ENF, the purpose of the expanded OECC was unclear due, in part, to inconsistencies in the Proponent's representation of requirements for minimum cable separation distances for VWC1 and VWC2. In response to the Scope, the DEIR included a discussion of cable spacing requirements and purpose of the expanding the OECC.

The DEIR identified minimum cable spacings of 165 feet between cables and 330 feet between cable pairs, which may be even greater in deeper waters. According to the DEIR, these minimum spacings are necessary to minimize the risk of cable damage from anchors, ensure redundancy in the event that one of the cables is damaged and to provide adequate space for vessels to position for repairs and cable splices. In addition, if a cable fails, it would be uncovered, cut and brought onto the deck of a repair vessel. A new section of cable would then be installed and connected to the original cable with two subsea repair joints. The repaired cable would be longer than the original cable due to the length of cable required to raise the cable onto the repair vessel. The excess length of the repaired cable would be laid and onto the seafloor in a looped configuration in the area adjacent to the cable route, then buried. According to the DEIR, the lateral area needed to accommodate the configuration of the repaired cable may be up to four times the water depth, or up to 520 ft between cable pairs, at the deepest point (130 ft) along the OECC. The FEIR should provide an update on engineering assessments of cable spacing required for the project.

As shown in the DEIR, the VWC1 offshore export cables are shown along a route near the center of the OECC and the VWC2 cables are depicted as being located parallel to and west of the VWC1 cables within the original OECC. Applying these minimum cable spacings (165 ft between cables and 330 ft between cable pairs) to the VWC1 and VWC2 offshore export cables, the distance between the easternmost VWC1 cable and the westernmost VWC2 cable would be 660 ft. Because a future offshore export cable pair could be no closer than 330 ft to the easternmost cable of the VWC1 pair and no closer than 330 ft to the westernmost cable of the VWC2 cable pair. Based on the results of the surveys of the expanded OECC, the Proponent believes that the OECC could accommodate another cable pair from a third windfarm in the SWDA. Therefore, the two cable pairs plus a potential future cable pair, including minimum spacing distances, will occupy a minimum of 1,155 ft of the 3,800-ft wide OECC. The minimum area could be wider if more than 330 ft (up to 520 ft) is required between cable pairs for repair and re-installation activity, as described above. The maximum width assuming 520-ft spacing between cable pairs would total 1,535 ft of the 3,800-ft wide (on average) OECC. The DEIR did not indicate why the entire 3,800 ft wide OECC is needed given these planning parameters,

except to suggest that an understanding of benthic conditions within the expanded OECC will facilitate micrositing of the cables to minimize impacts by avoiding sensitive impacts., As proposed in the DEIR, the VWC2 cable would be located within the originally reviewed OECC for VWC1 (which was proposed with a total width of 2,600 ft to 3,280 ft, according to the VWC1 FEIR Certificate). The DEIR indicated that the Proponent intends to seek approval to install the cables anywhere within the OECC. The FEIR should identify areas where the surveys indicate opportunities for micro-siting that could avoid SSUs and describe the process by which this may occur. It should explain how the Proponent would balance micrositing of the cables with potentially seeking to locate a third cable pair within the OECC. The FEIR should explain how the impact estimates presented in the DEIR could vary if significant micrositing were implemented, including significant shifts in the alignment that would place a cable within the expanded portion of the OECC.. The only plan in the DEIR that shows the proposed cable route in relation to SSUs is at a scale of 1:158,400 and shows the entire OECC from lease area to the landfall site. The FEIR should include maps that overlay the proposed cable route on the benthic habitat maps, which are at a scale of 1:39,000 and will better illustrate opportunities for micro-siting.

OMP Standards

The siting standards of the OMP and its implementing regulations (301 CMR 28.00) presume that a project alternative located outside mapped SSU resources is a less environmentally damaging practicable alternative than a project located within a mapped SSU resource. The OMP management standards require a demonstration that the project has undertaken all practicable measures to avoid damage to SSUs; and a demonstration that the public benefits of the project outweigh the public detriments to the SSU resource. The DEIR included an analysis of the project's conformance to the OMP management standards. The project will avoid and minimize impacts to SSUs largely by selecting the least environmentally damaging practicable cable route as determined through extensive marine surveys. As detailed above, the general route of the OECC minimizes impacts because it is the most direct route between the WEA and the onshore interconnection point. The proposed cable route avoids four of the six SSUs identified in the OMP for cable projects. In addition, it is anticipated that the cable route will avoid eelgrass beds documented in the northern section of the OECC. According to the DEIR, the surveys have demonstrated that it is not possible to avoid areas of hard/complex seafloor, which in some locations span the full width of the OECC. The project will take all practicable measures to avoid damage to SSU resources by using a jet plow or mechanical plow to install the cables to the extent practicable; minimizing the use of armoring by burying the cables to the necessary depth where possible and avoiding cable crossings; avoiding anchor impacts to eelgrass and hard/complex seafloor; and conducting post-construction monitoring. According to the DEIR, impacts to navigation and fishing will be temporary and will be limited to safety zones specified by the U.S. Coast Guard in the immediate vicinity of construction vessels as they move along the cable route. As described below, the Proponent will implement a Fisheries Communication Plan to coordinate its activities with commercial fishermen, and intends to propose a mitigation package using similar methodology as the one employed for the VW1 project. In addition, the Proponent has committed to a $16 million host community agreement with the Town of Barnstable.

Ocean Development Mitigation Fee

The Oceans Act established an Ocean Development Mitigation Fee to be assessed for offshore development projects as compensation to the Commonwealth for impacts to ocean resources and the broad public interests and rights in the lands, waters and resources of the OMP areas. Based on the anticipated placement of 12 acres of armoring and dredging of 106,000 cy of sediment to adequately bury the cable in sand waves, the DEIR proposed an ocean development mitigation fee starting at $285,500, which is at the upper end of the Class II fee ($85,000-$300,000) established in the OMP. According to the DEIR, the fee would increase by $10,000 for each acre of cable protection required above the 12 acres of armoring proposed in the DEIR. In addition, the fee would increase by $500 for every 1,000 cy of sand wave dredging required above the 106,000 cy of dredging proposed in the DEIR.

The ocean development mitigation fee schedule provides guidance on how the fee should be determined based upon project footprint and the spatial/temporal extent of effects on marine resources and water-dependent uses. The OMP fee estimate presented in the DEIR appears to be based mainly on the footprint of permanent structures. According to CZM, temporary impacts, such as side casting of dredged sediments, anchor line sweep and scour from work vessels, and sediment drape associated with sediments suspended during construction also contribute to a project's environmental impact footprint. The OMP notes that impacts include those that are 'negligible and limited in duration' as well as those that are 're-occurring or continuous in duration' as part of a project's footprint and should be considered for the purpose of calculating an ocean development mitigation fee. According to CZM, notwithstanding disagreement with the Proponent's method for calculating the fee, the proposed base fee and method for adjusting the fee associated with actual impacts is largely appropriate. The Proponent should consult with CZM on the final calculation of this fee and provide an updated calculation in the FEIR.

Wetlands and Water Quality

The DEIR provided detailed descriptions of wetland resource areas within the footprint of project activities, including LUO associated with installation of the offshore export cables, coastal beach, coastal bank and LSCSF associated with the landfall and coastal beach, LUO Coastal Bank, Riverfront Area and LSCSF associated with the crossing of the Centerville River.

Offshore Export Cable Installation

According to the DEIR, the installation of the offshore export cables will impact up to 123.7 acres of LUO, of which 18 acres represents the area of direct impact from installation the two cables in a 3.3-ft (1.0 m) wide trench for a distance of 23 miles; 56 acres from two five-foot wide installation plow skids in contact with the ocean floor during cable installation; 25 acres associated with dredging sand waves at a 3:1 slope to bury cables to an adequate depth; 12.7 acres from anchoring; and 12 acres where cable armoring may need to be placed over the cable for protection. Approximately 7.7 acres of the impacted LUO will be in areas of hard/complex seafloor and the remainder of the impacts will be to LUO characterized by soft sediments such as sand and mud. According to the DEIR, the detailed benthic data collected from marine surveys will enhance the potential for micro-siting during cable installation to avoid and minimize impacts to SSUs. The FEIR should include additional analysis of measures to minimize impacts to benthic habitat, including a detailed description of procedures that could allow for micro-siting of the cable during the cable laying process to avoid impacts to SSUs.

According to the DEIR, the offshore export cables will be primarily installed using either a jet plow, which is better suited for use in sand and soft clay, or a mechanical plow, which is effective across a wide range of sediment types, including stiffer sediments. Both types of plows receive cable deployed from a turntable aboard a construction vessel at the surface. The plows may be either pulled by the construction vessel or mounted on a self-propelled underwater vehicle using a power feed from the construction vessel. Jet plows simultaneously lay the cable on the seafloor and bury it by directing pressurized seawater at the seafloor to fluidize sediment so that the cable can sink into the trench by its own weight. Sediment suspended by the jet plow is anticipated to be localized in the area around the trench; however, sediment transport modelling indicates that plumes may extend for several hundred feet or more under certain conditions. A mechanical plow uses a cutting tool potentially assisted by a water jet to dig a trench into which the cable is fed. The trench would typically be backfilled by slumping of sediment at the edges of the trench. A mechanical plow would generate less suspended sediment than a jet plow. According to the DEIR, BOEM conducted a study that assessed impacts from cable-laying activities for the Block Island Wind Farm. BOEM's study found that a 2.7-inch high mound of sediment extending for a distance of 12.5 ft on either side of the cable trench (25 ft total) was caused by the installation plow, but that the mounds were not noticeable in surveys conducted one to two weeks after cable installation.

The DEIR identified specialty cable installation techniques that could be used in areas where adequate cable burial may not be achievable by the use of a plow in the manner described above. Potential construction techniques under these conditions include the use of a mechanical trench with cutting teeth or blades to cut a trench in the seafloor; a more robust plow capable of pushing aside boulders and cutting a trench before a subsequent standard plow pass installs the cable; a pre-plow pass with a jet plow or mechanical plow to loosen the sediment before a subsequent plow pass installs the cable; a grab tool suspended from a crane on the construction vessel to shift the boulder away from the cable route; or a diver or remotely operated vehicle (ROV) could use jets to create a trench in areas where other tools are unable to operate. A controlled flow excavation jetting tool, which uses several passes of a down pipe with jets positioned over the cable alignment to fluidize sediment and allow the cable to settle into place. According to the DEIR, this technique would cause sediment to be cast to either side of the trench, resulting in a wider area of disturbance than a jet plow or mechanical plow; for this reason, a controlled flow excavation jetting tool would only be used to where ethe cable route passes over small sand waves where burial cannot be achieved by jet plow or mechanical plow, to bury splice joints or in instances where deeper cable burial is necessary to avoid the need for armoring. In addition, the DEIR described a cable installation method that could be used in shallow waters where larger construction vessels cannot operate. Under some shallow water conditions, the cable would be laid on the seafloor, then buried by a jet plow or mechanical plow mounted on a vehicle controlled and powered from a shallow-draft vessel at the surface. According to the DEIR, specialty cable installation techniques will be used in limited areas and generally have similar impacts to a jet plow or mechanical plow. Because specialty techniques may be used in areas of hard seafloor, the FEIR should describe the nature and extent of potential impacts associated with the use of a controlled flow excavation jetting tool and of techniques that may be used to reposition boulders away from the cable alignment.

According to the DEIR, the route of the offshore export cables has been selected to avoid areas of hard seafloor conditions where cable burial may be difficult. The Proponent will minimize the need for more than one pass of the plow by selecting the appropriate tool for the

site conditions along the cable route and will modify operations if target burial depth is not consistently achieved, and project engineers will determine whether a different tool could be used to bury the cable before placing armoring over the cable. The DEIR is not clear as to whether burial depth and sediment cover would be measured during cable installation or in post-lay surveys, and did not review the procedure for determining whether additional attempts to bury the cable, including the use of a specialty cable installation technique, or armoring is needed. This information was requested in the Scope for the DEIR and should be provided in the FEIR.

The DEIR identified potential armoring material that could be used for cable protection, including concrete mattresses, rocks, gabion rock bags or half-shell pipes. According to the DEIR, armoring for cable protection functions as an artificial reef that provides hard-bottom habitat for colonization of the seafloor. The ecological value of an artificial reef can depend on the variety of substrate, the presence of holes and crevices with different dimensions that provide shelter, and surface orientation and complexity of the material, which may encourage successful settlement. According to the DEIR, armoring that includes shells, gravel, cobbles, boulders would most closely resemble the hard-bottom habitat present along the cable route and provide high ecological value while protecting the cable. The DEIR estimated that rock armoring would cover a 30-ft wide area over the cable to provide adequate protection due to sides slopes of the rock mound. Gabion rock bags are metal cages filled with rocks of a variety of sizes; according to the DEIR, gabion rock bags could also have high ecological value, especially if shells were incorporated. Concrete mattresses are widely used for cable protection and provide a hard substrate for epifaunal attachment, but do not have the surface complexity that provides shelters and may become covered in sand over time. The DEIR estimated that concrete mattresses would cover only a 10-ft wide area over the cable. Half-shell pipes have the most limited ecological value of all of the armoring options due to their lack of holes and crevices, smooth texture and low relief. According to the DEIR, half-shells would only be used at cable crossing, which are not anticipated for this project, or to protect cable that must be laid on the surface of the seabed. The DEIR did not commit to a particular cable protection method; however, the 30-ft wide impact associated with rock armoring was used to quantify potential impacts of the project. The FEIR should provide additional details of the armoring methods to be used for the project. This information is particularly important because armoring is used at all, it is likely to be needed in SSUs with hard seafloor conditions.

Project activities, particularly sand wave dredging and cable burial, will cause bottom sediments to become suspended in the water column, which could impact water quality and affect benthic organisms and habitat features when the sediment plume settles on the seafloor. The DEIR included a sediment transport modelling report that described Total Suspended Solids (TSS) concentrations in the water column and deposition of suspended sediments associated with TSHD dredging and dredged material disposal, and cable installation by plows, jets and a controlled flow excavation tool. According to the DEIR, disposal of sediment dredged using TSHD will increase turbidity throughout the water column because the material will be released at the surface. The model predicted that a plume with TSS concentrations above ambient levels will extend for up to 10 miles from TSHD locations and persist for up to six hours; in addition, deposition of over 100 millimeters (mm) of sediment would occur on the seafloor in the area where dredged material is released. Sediment plumes modelled for the cable installation methods were limited to approximately 20 ft of the water column. Above-ambient levels of TSS were not expected beyond a distance of 1.3 miles from the cable installation site and would fully dissipate

in less than four hours. Modeling of cable installation activities predicts that seafloor sediment deposition greater than one mm in thickness should not extend beyond 330 ft of the cable route. The DEIR did not propose any monitoring of turbidity during the construction period or mitigation measures. The FEIR should evaluate the potential for construction-related turbidity impacts to the eelgrass beds located at the north end of the OECC and at Cape Poge, and identify measures to mitigate impacts to eelgrass.

The Proponent will implement a Benthic Habitat Monitoring Plan (BHMP) to measure potential impacts and the recovery of benthic habitat affected by project activities. Monitoring will occur one year, three years and possibly five years after construction. According to the DEIR, the BHMP will be modeled on the monitoring plan developed for VWC1 but may be revised based on results from VWC1 post-construction monitoring efforts. The approved BHMP for VWC1 will use a before-after-control-impact (BACI) gradient sampling design that includes sampling and analysis of five defined benthic habitat zones. Within each habitat zone, benthic grab samples will be collected within the impact area where the cable was installed, at distances of 165 feet, 330 feet, and 490 feet from the impact area and at three control stations located approximately 0.62 miles (one kilometer) away from the outermost transect sample. According to the DEIR, control stations will be selected in areas that will not be impacted by the subsequent construction of the VWC2 project, and vice versa. Video surveys will be conducted along the cable route covering 330 ft on either side of the intersection of the cable route and sampling transect, along the 330-ft long sampling transect, and for a distance of 165 feet on the opposite side of the cable route. The following parameters will be monitored:

- Changes in the infaunal density, diversity, and community structure;
- Changes to the seafloor morphology and structure;
- Changes in median grain size; and
- Changes in abundance, diversity, and cover of epibenthic species, with focus on important species and those colonizing hard structures.

Data collected from the sampling surveys will be analyzed to determine if there are statistically significant differences in the parameters listed above among the sampling stations; significant differences between samples collected in and outside of the impact area could reflect an on-going impact from the cable installation. Comparing samples along the transect also allows for a determination of the spatial extent of any observed impacts. The control station samples will be used to distinguish regional changes from direct project impacts.

The sampling plan for VWC1 also includes collection of grab samples from 10 stations to detect changes in the presence of sand lance, which is an important prey species for birds, marine mammals and commercially important fish. In addition, the Proponent will conduct high-resolution multibeam depth sounding and video surveillance within the monitoring and control areas. The multibeam data will be used to prepare a digital terrain map to allow for comparisons of seabed morphology over time, including changes caused by cable installation. The following observations will be made from the video:

- Locations, presence, and general characterization of the substrate (three-dimensional surface features and regularity) in accordance with the CMECS standards;
- Quantification and general characterization of epibenthic invertebrates (e.g., lobster

and crabs);
- Quantification and general characteristics of shellfish (e.g., clams, scallops);
- Changes in invasive species coverage;
- Evidence of burrowing activity; and
- Presence and general characterization of benthic and nektonic habitats.

According to the DEIR, the FEIR will include an update on the status of the BHMP for the VWC2 project to the extent more information is available. As noted below, the FEIR should include a discussion of the questions the BHMP has been designed to answer and how the sampling plan has been designed to address those questions. The FEIR should also provide additional details of monitoring during and after construction, including turbidity monitoring during construction.

Onshore Export Cable Installation

The DEIR provided a detailed description of the HDD operations associated with transitioning the offshore export cables onto land, identified potential impacts to wetland resource areas and described mitigation measures. The use of HDD will avoid direct impacts to Coastal Beach. Two HDD entry pits, each measuring 10 ft by 20 ft, will be excavated in the Craigville Public Beach parking lot, which is part of the barrier beach system and located within LSCSF. According to the DEIR, the impacts associated with these activities will be temporary and will not impact the barrier beach or the coastal floodplain. The DEIR described measures that will be implemented to minimize any releases of drilling fluid that may occur during HDD operations, including monitoring of drilling fluid pressure, volume and flow rate that could reflect uncontrolled seepage into the environment. If a release of drilling fluid is detected, operators of the HDD rig will stop pumping drilling fluid through the system, identify areas where seepage has occurred, implement a release mitigation plan and notify MassDEP of the release.

Potential wetland impacts associated with trenching required for installation of the duct bank include 10 lf of Coastal Dune, 1,100 lf of Barrier Beach, 2,000 lf of LSCSF and 730 lf of Riverfront Area. Excavation of the jacking shaft and other staging activities for the Centerville River crossing will impact 9,400 sf of Barrier Beach and 9,400 sf of Riverfront Area. According to the DEIR, the use of microtunneling to install the cable under the Centerville River will avoid direct impacts to Coastal Bank and LUO associated with the river.

MassDEP has reviewed and approved the Proponent's sampling plan for sediments from the offshore area of HDD operations; the WQC application should include the results of sediment sampling. The Proponent should consult with MassDEP regarding the potential need for sampling sediment in the Centerville River prior to microtunneling.

Cumulative Impacts

The DEIR included a table listing impacts of the VWC1 and VWC2 projects in state waters, which is reproduced in Table 1 below.

Table 1. Cumulative impacts of VWC1 and VWC2 in state waters

Impact type	VWC1	VWC2
Approx. cable length (total for 2 cables)	45.2 miles	46 miles
Sand wave dredging volume	Up to 85,017 cy	106,000 cy
Trenching impact area	18 acres	18 acres
Disturbance from trenching tool skids	36 acres	56 acres
Anchoring	2.3 acres	12.7 acres
Cable protection	9 acres	12 acres

According to the DEIR, the difference in impacts between the projects is due to differences in mapped bottom conditions and technical assumptions revised for VWC2. The DEIR does not provide an explanation of how the mapping or technical assumptions differ between projects or affect the impact estimates. I note, however, that the DEIR assumed that vessels would use nine-point anchors, while five-point anchors were assumed for VWC1. Similarly, the estimates for disturbance from skids was based on 5.5-ft wide skids for VWC2 and 3.3-ft wide skids for VWC1. The FEIR should confirm the assumptions used to develop the estimates and explain why larger skids and anchor systems are proposed for use in VWC2 than were proposed for VWC1.

According to the DEIR, the impacts of each project are relatively minor and temporary in nature, with the exception of cable protection which will be a permanent impact. The Proponent does not believe it is feasible to coordinate VWC1 and VWC2 construction activities due to their different stages of design and permitting. According to the DEIR, while it appears that the OECC could accommodate a third pair of cables from the SWDA, it is not possible to estimate the impacts of that project because its routing and design have not been determined.

Chapter 91 / Waterways

Sections of the export cables in, under or over the flowed tidelands of Nantucket Sound and the Centerville River, as well as associated dredging for installation of the cables, will be subject to licensing under c. 91 and the Waterways Regulations (310 CMR 9.00). Pursuant to the Waterways Regulations at 310 CMR 9.12(2)(e), a facility generating electricity from wind power which requires an EIR may be determined to be water-dependent if a comprehensive alternatives analysis demonstrates that the facility requires direct access to or location in tidal waters and cannot reasonably be located or operated away from tidal waters. For projects subject to an EIR, the alternatives analysis must be provided during MEPA review so that I may make a finding regarding water-dependency. The Alternatives Analysis above demonstrated that that the transmission cables from the offshore WTG require access through tidal waters to reach the interconnection point in Barnstable. I also note that the nature and purpose of the proposed transmission cables appear to be consistent with infrastructure facilities presumed to be water-dependent pursuant to 310CMR 9.12(2)(b)(10) because they will deliver electricity to the public from an offshore facility located outside the Commonwealth.

The DEIR included a review of the project's consistency with the relevant standards of the Waterways Regulations. The project will not interfere with the public rights to access tidelands or navigate (310 CMR 9.35) because cable installation activities in Nantucket Sound will be in a limited area at any given time and navigation around safety zones determined in

coordination with the U.S. Coast Guard (USCG). The project will employ a Marine Coordinator who will manage construction activities and serve as a liaison to port authorities, law enforcement agencies, port operators and the Massachusetts Steamship Authority and other ferry operators. The Proponent will distribute Notices to mariners to notify recreational and commercial vessels of project activities in offshore waters. As discussed below, the Proponent has developed a Fisheries Communication Plan that includes outreach to fishermen potential affected by construction activities. The cable will be sufficiently buried beneath the seafloor so it will not pose a hazard to navigation. The Proponent will be required to pay a Tidelands Occupation Fee as a condition of its c. 91 License. The fee is based on the area of permanent structures in tidelands and will be determined after construction is completed. According to the DEIR, the Occupation Fee for the VWC1 project was $1,978,980 and the fee for the VWC2 project is likely to be a similar amount.

Rare Species and Marine Fisheries

The project is located in an area that includes habitat and prey species relied upon by marine mammals, birds and fish, including rare species, as well as shellfish and finfish species that are important to the commercial and recreational fishing industries. These highly mobile animals may traverse the project area in both state and federal waters. Therefore, potential impacts of the project outside of state waters

The DEIR reviewed avian rare species and marine mammals within the project area, including the wind farm, and described proposed monitoring and mitigation measures. It provided the results of marine surveys of the OECC that documented benthic habitat and commercially-important finfish and shellfish and described measures to minimize impacts to these species. The DEIR reviewed a methodology for assessing the economic impact of the project on the commercial fishing industry and determining appropriate mitigation.

Marine Fisheries

Surveys of the OECC included sampling and video observations of infauna (organisms living in the sediment), epifauna (organisms attached to hard surfaces on the seafloor) and shellfish. According to the brief summary provided in the DEIR, the most common and abundant organisms detected in samples include amphipods, polychaete worms, nematodes, snails, barnacles, hooded shrimp, clams and annelids; however, no survey results were provided to support these findings. The DEIR provided limited information about sessile organisms observed in the OECC. The surveys conducted in 2017 detected a small number of bay scallops in three of 37 video transect and in 2020, 34 bay scallops were observed in seven of 63 transects. No squid mops were observed in the 2017 surveys and three squid mops were observed in two of 63 transects surveyed in 2020. According to DMF, video surveys may not be an appropriate survey tool for bay scallops, which are highly variable on an annual with respect to distribution and abundance, or organisms such as whelks that are typically buried in the sediment during the day; data from the MA inshore bottom trawl survey would provide a more accurate representation of sessile and low-mobility species. The DEIR did not provide additional data on the distribution of sessile organisms or animals of limited mobility, such as shellfish and whelks, that are vulnerable to trenching activities; this information was required in the Scope for the DEIR and should be provided in the FEIR.

The OMP includes mapped areas of commercial and recreational fishing and navigation in Nantucket Sound that could be affected by the project. As described above, impacts to commercial fishing will be minimized through implementation of a Fisheries Communication Plan, which will involve coordination with stakeholder groups representing commercial and recreational fishing to identify measures to minimize interference with fishing activity and impacts to habitat in fishing areas. According to the DEIR, the Proponent is developing an analysis to determine the project's economic impact on commercial fisheries. The analysis will be included in the Construction Operations Plan (COP) to be released later this year and will determine the economic exposure of commercial fisheries, which is a measure of potential economic losses that would result if the project caused all fishing effort in the lease area and in the OECC (during export cable installation) to stop and not be diverted to other fishing areas. The methodology will be based on the approach taken for the Vineyard Wind 1 project, but will rely on more recent data on fishing activity. According to the DEIR, compensatory mitigation will be determined in collaboration with state and federal agencies and fisheries stakeholders during the federal review processes. The FEIR should provide a summary of the economic exposure analysis included in the COP.

The DEIR included a study that modeled electric and magnetic fields (EMF) potentially generated by the transmission cables.[6] The model assumed that the windfarm would be generating at 100 percent of its capacity, rather than at 50 percent of capacity at which it is expected to operate potential impacts, and therefore the modeling results are assumed to overestimate EMF. The DEIR summarized a BOEM report on EMF completed in 2018 that found that undersea power cables generate only magnetic fields because the electric fields are shielded by the cable covering. The analysis determined that the highest magnetic fields generated by a cable buried approximately five feet below the seafloor would be observed directly over the cable and would measure 84.3 milligauss (mG); this level is well below health-based guidelines that range from 1,000 mG to 10,000 mG. The intensity of EMF is anticipated to dimmish rapidly with distance away from the cable; the model estimated a magnetic field of 5.6 mG 20 feet away from the cable. The BOEM study concluded that magnetic fields may have a negligible effect in bottom-dwelling species, but are not likely to affect pelagic species because the intensity of the field decreases with distance. The Proponent has committed to performing a post-construction EMF study of the VWC1 cables. The EMF monitoring procedure has not been finalized, but is likely to include measurements of EMF at various distances from the cable when the windfarm is operating as close to full capacity as possible.

According to the DEIR, time-of-year (TOY) restrictions have not yet been established for the project, however it is likely that the project will have similar restrictions as the VWC1 project. The VWC1 project will commence landfall HDD activities before April 1or after August 31 to avoid noise impacts to Piping Plover during the breeding season and to avoid impacts to the beach parking lot in the summer months; cable installation in the north part of the cable route will occur outside of an April to June TOY window; and the project will avoid construction in the fall to minimize interference with the commercial squid fishery. According to the DEIR, the Proponent does not expect to complete consultation with state agencies on final TOY restrictions for VWC2 until the WQC permitting process; however, the FEIR should evaluate the use of TOYs as potential measures to mitigate the project's impacts.

[6] The analysis also modeled EMF for onshore cables. The highest modeled EMF value for the proposed onshore cable route was 83.4 mG.

Rare Species

According to NHESP, Massachusetts is a globally significant nesting, feeding, staging and overwintering area for numerous migratory birds, including rare species identified pursuant to the federal Endangered Species Act (ESA) and/or the Massachusetts Endangered Species Act (MESA). The state's natural resources support almost 40 percent of the Atlantic coast breeding population of Piping Plover and approximately 50 percent of the North American Roseate Tern population, as well as significant nesting colonies of Common and Least terns.

The Scope included in the ENF Certificate required the DEIR to assess the direct and indirect impacts of the project on state-listed and migratory birds in the project area and identify mitigation measures. In addition the Scope required the DEIR to provide an update on the VWC1 federal review process relative to the protection of marine mammals and avian species, including any available migratory survey data, and explain how such approaches may be adapted for this project. The DEIR provided minimal information in response to the Scope.

The FEIS for the Vineyard Wind 1 project prepared by BOEM reviewed impacts to rare species, including Roseate Terns, and migratory avian species such as Common Tern. Modelling of collisions of birds with offshore wind turbines indicated that mortality of common terns is expected due to cumulative impacts associated with wind farm development. As noted in NHESP comments, the DEIR does not acknowledge this potential for mortality nor does it provide a comprehensive review of the analysis or modeling conducted for this cumulative impact assessment by BOEM.

In addition, BOEM prepared a Biological Assessment (BA) dated September 2020 that reviewed the impacts of the Vineyard Wind 1 project on four federally-listed endangered species, including Roseate Terns and Piping Plover. The BA concluded that the project would Not Likely Adversely Affect Roseate Terns and Piping Plovers because those species do not typically use the offshore area where turbines would be located for feeding or migration; the BA also determined that the project would have no effect on the other two federally-listed species, Northern Long-Eared bats and Black Capped Petrel. BOEM's findings relied in part on modelling of the risk of bird collisions with wind turbines. In a letter to BOEM dated October 16, 2020, the U.S. Fish and Wildlife Service (FWS) concurred with the BA's conclusions regarding the project's impacts to the four species. However, the FWS noted that its concurrence was not based on modelled risk of collisions due to data gaps regarding the presence and behavior of birds in the proposed windfarm area, the lack of species-specific inputs into the model and limitations of the model for predicting future collision risk. Similar concerns about the modelling results have been raised by NHESP in comment letters to MEPA and BOEM. The FEIR should describe any updated data or modelling of collision risk to be submitted in its planned COP update, as well as any new data or modelling made available by BOEM or other federal agencies.

The Proponent has developed a framework for a post-construction monitoring program for offshore birds and bats that includes acoustic monitoring, deployment of up to 150 tags per year for three years and installation of tagging receivers to detect tagged Roseate Terns, Common Terns and other migratory birds, count surveys at the wind turbines and preparation of annual monitoring reports. However, the Proponent has not indicated any plans for pre-

construction surveys or tracking of avian species. To the extent these items are requested by federal agencies or surveys are conducted, such data should be provided in the FEIR.

Both NHESP and CZM, which will be charged with providing a federal consistency determination for this project, have requested that the FEIR identify commitments made by the Proponent to support conservation measures relating to monitoring and habitat restoration or enhancement of protected avian species. Notwithstanding the apparent lack of accurate data and the fact that federal permitting is in its early stages as related to rare species impacts, BOEM's cumulative impacts assessment for Vineyard Wind 1 does appear to suggest the potential for mortality for migratory avian species such as Common Tern. It is the Commonwealth's expectation that the Proponent will engage in good faith discussions with NHESP about these potential impacts and consider committing to commonsense measures to mitigate these impacts.

The Craigville Beach landfall site includes mapped Priority Habitat for Piping Plover. According to the DEIR, project activities within mapped rare species habitat are limited to the installation of underground conduits using HDD through which the offshore export cables will be brought onto shore. The DEIR included a draft Piping Plover Protection Plan that includes a commitment to commence HDD operations before April 1 or after August 31, pre-mobilization plover surveys, daily monitoring of nests in the vicinity of the work zone, training of construction personnel, mitigation measures in the event of an uncontrolled release of HDD drilling fluid, and submittal of a report to NHESP upon completion of construction.

Substation and Interconnection

The DEIR provided updated designs of the proposed substation and interconnection at the West Barnstable Substation. The ENF had identified the potential siting of some of the components of the proposed substation on a 2.8-acre site north of Route 6 and adjacent to the West Barnstable Substation. The revised substation design included in the DEIR will locate all substation components at the 8 Shootflying Hill Road site; this change will reduce the area of tree clearing on the 2.8-acre site from 2.8 acres to two acres. As previously proposed in the ENF, the 2.8-acre site will be used as the site of the jacking shaft and staging area for the installation of the transmission cables under Route 6 and interconnection to the West Barnstable Substation. According to the DEIR, traffic on Route 6 will not be affected during construction because the duct bank will be installed under the highway using the pipe jacking construction technique.

The site of the proposed substation and the cable connecting the proposed substation to the West Barnstable Substation are located within the Zone II Wellhead Protection Area of a public drinking water supply well for the Town of Barnstable. Comments from the Town of Barnstable stress the importance of protecting the water supply from releases of fluids from the onshore export cables or substation equipment. According to the DEIR, the cables will not contain any fluid. The substation design includes accommodations to provide on-site containment of 110 percent of the dialectric fluid contained in substation components; additional containment capacity will be incorporated into the final design of the substation to capture any releases of fluid during an extreme precipitation event. The Proponent will develop and implement a construction-period Spill Prevention, Control and Countermeasures Plan (SPCC) to minimize the potential for a release of fuel or other contaminants that could impact water quality. The site will include a stormwater management system designed to meet the requirements of the

Massachusetts Stormwater Management Standards (SMS), including Best Management Practices (BMP) such as deep sump catch basins, dry wells for infiltration of roof runoff, perforated drains to collect surface runoff, underground infiltration systems, and proprietary water quality units to remove TSS from stormwater prior to its discharge to the infiltration systems.

Cultural Resources

The project is located in areas with significant cultural resources associated with ancient and historic period Native American activities and colonial settlement, including submerged ancient Native American cultural resources and shipwrecks. The DEIR reviewed the findings of a survey of historical and archaeological resources near the proposed onshore export cable route and substation. According to the DER, onshore components of the project will not impact historic resources because the onshore export cables will be buried and there are no historic properties in proximity to the proposed substation site. The Proponent should review MHC's comment letter and provide the information identified by MHC to facilitate its review pursuant to state and federal statutes and regulation.

Marine archaeological surveys conducted for VWC1 did not detect direct evidence of pre-Contact Native American cultural materials. However, analysis of geophysical and geotechnical survey data suggests that paleolandforms are present in the area that may contain archaeological materials. According to CZM, BUAR has issued a permit to the Proponent for a marine archaeological assessment that will be completed this summer. The FEIR should provide an update on the Proponent's ongoing coordination with BUAR and MHC, the results of the marine archaeological assessment and a plan consistent with the BUAR's Policy Guidance for the Discovery of Unanticipated Archaeological Resource.

Article 97 and Conservation Land

Sections of the onshore export cables may be located on parcels of land protected by Article 97, including Craigville Beach and associated parking lot and potentially a parcel on ROW #345 along the route from the proposed substation to the interconnection. A change in use of Article 97 land requires a 2/3 vote of the legislature and compliance with the Executive Office of Energy and Environmental Affairs (EEA) Article 97 Land Disposition Policy (Article 97 Policy). A primary goal of the Policy is to ensure no net loss of Article 97 lands under the ownership and control of the Commonwealth. Allowances are made within the Policy for exceptional dispositions.

The DEIR included a review of the project's compliance with the six criteria of the Article 97 Policy:

- *The Proponent of the disposition must conduct an analysis of alternatives, commensurate with the type and size of the proposed disposition, that achieve the purpose of the disposition without the use of Article 97 land, such as the use of other land available within the appropriate market area;*

  The DEIR included an analysis of alternative cable routes between Craigville Beach and the West Barnstable Substation that demonstrated that the Preferred Alternative will

minimize impacts by using the moist direct route between the points. The project will not include any surface structures on Article 97 land that could affect the use of the parkland.

- *The disposition of the subject parcel and its proposed use may not destroy or threaten a unique or significant resource (e.g., significant habitat, rare or unusual terrain, or areas of significant public recreation);*

  The project will temporarily use Craigville Beach, which is located within rare species habitat, for HDD operations, but will not construct any above-ground permanent structures that would affect the beach or directly impact rare species habitat.

- *Real estate of equal or greater value, and of significantly greater resource value is granted to the disposing agency;*

  According to the DEIR, the Proponent anticipates that Article 97 legislation for the sites will require mitigation that was specified in the Proponent's Host Community Agreement with the Town of Barnstable, as was required for the VWC1 project.

- *The minimum necessary area of Article 97 should be included in the disposition and the existing resources continue to be protected to the maximum extent possible;*

  The cables will be completely buried within small areas subject to Article 97 and will not interfere with the public's us eof the parkland.

- *The disposition serves an Article 97 purpose or another public purpose without detracting from the mission, plans, policies and mandates of EEA and its appropriate department or division; and*,

  The offshore export cables will deliver power generated by clean, renewable sources to the regional electricity grid, resulting in cleaner emissions from energy use.

- *The disposition is not contrary to the express wishes of the person(s) who donated or sold the parcel or interests to the Commonwealth.*

  According to the DEIR, this criterion is not applicable to the parcels subject to Article 97 protection that may be used by the project.

The FEIR should provide additional information on the use of protected open space, including plans of affected areas.

Port Facilities

According to the DEIR, several port facilities may be used to support construction of the windfarm and export cables, including the New Bedford Commerce Terminal, Brayton Point Commerce Terminal, Vineyard Haven and Fall River. Port facilities will be used for administrative office space, warehouse storage, docking of vessels, crew transfers and for loading, offloading, fabrication and storage of project components. The Proponent anticipates

that most long-term operation and maintenance activities will be based at Barnum Landing in Bridgeport, Connecticut; however, crew transfer vessels and service operations vessels are likely to operate out of Vineyard Haven during the operations and maintenance phase. The DEIR did not indicate whether any construction or expansion of buildings, docks or infrastructure, or dredging would be required at ports in Massachusetts, as requested in the Scope. This information should be provided in the FEIR. The FEIR should also include an estimate of air emissions associated with vessel traffic between the windfarm and port facilities, both during construction and post-construction operations.

Climate Change

Greenhouse Gas (GHG) Emissions

According to the Proponent, the project will result in avoided annual emissions of 1.59 million tons of CO_2 or 47.6 million tons of CO_2 over the project's 30-year lifespan. This estimate was calculated using air emissions data from the Northeast Power Coordinating Council (NPCC) published in the EPA's Emissions and Generation Resource Integrated Database (eGRID), and assumes a capacity factor of approximately 50 percent and total generation of 800 MW. This estimate does not use the marginal average emissions rate as calculated by the Independent System Operator-New England (ISO-NE), which was calculated most recently as 633 pounds per MWh, nor does the estimate appear to account for decreased grid emissions over time as more electricity is generated by renewable sources. A revised estimate should be provided in the FEIR.

According to the DEIR, the project will minimize line loss by using the shortest route between the ESP and interconnection point and by transmitting the power at the highest practical voltage (either 220 kV or 275 kV). The DEIR did not review any measures incorporated into the substation design to minimize line loss, as requested in the Scope included in the ENF Certificate; this analysis should be provided in the FEIR.

The DEIR described measures to minimize the project's GHG emissions. The substation will use new circuit breakers that are designed to be gas-tight and sealed to prevent the release of sulfur hexafluoride (SF_6). Other equipment substation will be designed to have a 0.1 percent annual maximum leak rate. According to the DEIR, substation equipment will meet the requirements of MassDEP's Air Regulations at 310 CMR 7.72, which imposes declining annual aggregate emissions limits and other measures on gas-insulated switchgear. The DEIR did not review the requirements of 310 CMR 7.72 or how the substation will be designed to meet those requirements, as requested in the Scope included in the ENF Certificate; this analysis should be provided in the FEIR. The Proponent has committed to minimizing GHG emissions form construction equipment by meeting EPA-Tier 4 or equivalent emissions standards and participating in MassDEP's Diesel Retrofit Program.

Climate Change Adaptation and Resiliency

The DEIR reviewed potential impacts to the proposed onshore export cables and associated structures associated with climate change. The analysis assumed sea level rise of three feet over the 30-year lifespan of the project. According to the DEIR, a three-foot rise would inundate only the portion of the duct bank closest to Craigville Beach. The DEIR modeled

storm conditions with a three-foot rise in sea level using the SLOSH model with inputs provided by the National Hurricane Center. Under these conditions, the southern end of the duct bank from Craigville Beach to approximately 0.5 miles north of the Centerville River would be inundated. According to the DEIR, the onshore export cable should not be affected under this scenario because it is heavily insulated and designed to withstand wet conditions.

Shoreline maps prepared by CZM indicate that the shoreline has accreted by over 200 feet since 1846. According to the DEIR, neither the cables or vault will be vulnerable to shoreline erosion. The export cable will transition from offshore to an onshore vault through conduits installed approximately 30 ft below the shoreline and will be approximately 20 feet below the parking lot before entering a concrete vault located 100 ft from the shoreline. According to the DEIR, project infrastructure is unlikely to be damaged except under a catastrophic storm event affecting the coastline. Comments from CZM suggest that shoreline change history may not a useful data source for this purpose due to the infrequency of large storm events in this area, which are predicted to increase in frequency and intensity. The FEIR should include an explanation of how the proposed cable burial depth is sufficient under predicted circumstances, how cable burial will be monitored at the water/shore interface, and what measures will be taken to maintain sufficient depth of cover in the event of significant erosion.

As noted above, the substation will be designed with sufficient containment capacity to account for extreme precipitation events. The FEIR should provide an updated description of the containment system and the precipitation assumptions used its the design.

Environmental Justice

According to the DEIR, portions of the offshore cable route and the substation are located within a mile of a mapped Environmental Justice (EJ) population meeting the criteria of Minority and Income. The DEIR reviewed the project's impacts based on the 2017 EEA EJ Policy, which applies to projects meeting MEPA review thresholds for air, hazardous and solid waste, and wastewater. The project does not exceed any of the stated review thresholds and therefore would not be subject to the 2017 EJ Policy.

On March 26, 2021, Governor Baker signed into law *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy*, which includes provisions that significantly enhance public involvement opportunities and analysis of impacts for EJ communities across the Commonwealth. Regulations for administering the EJ-related provisions of this legislation will be developed in the near future. As described below, the FEIR should include a review of the project with respect to new maps of EJ populations that are now available.

Construction Period

The DEIR described potential construction period activities, impacts and permitting requirements associated with all aspects of the project. The Proponent will prepare a Construction Management Plan (CMP) that outlines feasible measures that will be implemented to eliminate or minimize impacts including, but not limited to, traffic management, soil management, air quality, noise, water quality, erosion and sedimentation, solid waste management, soil management, spill control and archaeological resources. An Environmental

Inspector will be hired to provide oversight of construction activities. According to the DEIR, any construction on land would be conducted between Memorial Day and Labor Day only in coordination with the Town of Barnstable.

Conclusion

The DEIR provided a detailed description of existing onshore and offshore condition, the proposed cables and substation, construction methods and mitigation measures. The DEIR did not include significant new details of avian and benthic invertebrate resources requested by state agencies or identify additional mitigation measures to minimize impacts. As described below, a major focus of the FEIR should be an evaluation of potential mitigation measures to address impacts to the Commonwealth's offshore resources.

SCOPE

General

The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, in addition to providing the information included in this Scope. The Scope should be understood and responded to in the context of the analysis of the DEIR above. The FEIR should clearly demonstrate that the Proponent has sought to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible. The FEIR should identify measures the Proponent will adopt to further reduce the impacts of the project since the filing of the DEIR, or, if certain measures are infeasible, the FEIR should discuss why these measures will not be adopted.

The FEIR should address, in a detailed and comprehensive manner, issues raised in comment letters submitted by CZM, MassDEP, NHESP and DMF, which are incorporated by reference herein. In general, information and analyses provided in response to these comment letters should be incorporated into the main body of the FEIR and not provided solely in the Response to Comments section of the FEIR. The Proponent should consult with CZM, DMF, NHESP and MassDEP for detailed guidance on the information and analyses that should be provided in the FEIR.

Project Description and Permitting

The FEIR should describe any changes to the project since the filing of the DEIR. It should include updated site plans for existing and proposed conditions. Conceptual plans should be provided at a legible scale and clearly identify all major project components, wetland resource areas, rare species habitat, tidelands, Article 97 land and information required in the OMP and the Scope below. The FEIR should include plans and a detailed description of existing conditions and updated site plans for existing and post-development conditions at a legible scale. The FEIR should provide plans detailing conditions within the OECC and expanded OECC; offshore and onshore cable routes; detailed description of offshore and onshore cable installation methods and associated impacts and proposed mitigation measures; design of the substation and interconnection to the transmission system; and stormwater management measures. The Town of Barnstable's comment letter referred to additional capacity that will be incorporated into the duct

banks at the landfall. The FEIR should clarify whether the duct banks will be designed for VWC2 only, as shown in the DEIR, or with additional capacity. If additional capacity is proposed, the FEIR should fully document the design and potential impacts of any additional capacity built into the project design. The FEIR should provide a more detailed description of the proposed expansion to the West Barnstable Substation, identify impacts such as land disturbance, tree clearing, addition of impervious area and noise, and propose mitigation measures to address impacts of the expansion.

The FEIR should include a list of all state, federal and local approvals required, review relevant requirements and provide an update on the status of review and permitting processes. It should include a discussion of the project's consistency with those standards. Pursuant to the Coastal Zone Management Act (CZMA), CZM's federal consistency authority extends to activities that have reasonably foreseeable effects on any coastal use or resources resulting from a federal agency activity or federal license or permit activity. Renewable energy leases and related authorizations by BOEM are listed federal actions of the state's approved Coastal Management Program. CZM's federal consistency review will be completed through the federal BOEM renewable energy program and National Environmental Policy Act (NEPA) filings; however, as requested by CZM, the FEIR should describe activities in federal waters to the extent practicable as well as potential effects on state resources and uses to allow for a more complete assessment of the entire project through this MEPA process. It should include a description of existing conditions and plans for existing and post-development conditions for all project elements, including the WTGs, ESPs, submarine cable, onshore cable, HDD, and land-based facilities. It should clearly describe selected methods of cable installation and the route segments where each method will be used. The FEIR should include a project schedule, describe construction sequencing and describe project phasing.

The FEIR should provide a comprehensive response to comments on the DEIR that specifically addresses each issue raised in the comment letter; references to other responses, or to a chapter or section of the FEIR, alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. The DEIR included a chapter with Proposed Section 61 Findings and Mitigation that included only a small subset of mitigation measures identified throughout the DEIR. The FEIR should include a separate Mitigation chapter that provides a detailed and comprehensive list of all mitigation measures, including construction-period mitigation and decommissioning, identified in the DEIR and FEIR. The FEIR should include a description of the Proponent's participation on the Nantucket Offshore Wind Community Fund.

Ocean Management Plan

The FEIR should provide a revised classification resources in the OECC using the CMECS format. The photos, videos, and GIS shapefiles of mapped seafloor features used to make the maps of the OECC should be provided to CZM and DMF. In addition, a spreadsheet of the surficial sediment and coring data, photos, videos, and Geographic Information System (GIS) shapefiles of mapped seafloor features used to make the maps of the OECC should be provided to CZM and DMF.

According to the DEIR, the expansion of the OECC was intended to allow for micrositing of the cable to minimize impacts to sensitive habitats and satisfy engineering

requirements and the Proponent seeks the flexibility to site the offshore cable anywhere within the expanded OECC. The FEIR should provide an update on engineering assessments of cable spacing required for the project. It should include a comprehensive discussion of how micrositing of the cable would be accomplished, including the extent to which decisions are made in real time during cable laying operations, the factors considered in determining changes in cable alignment, the limits on route alterations due to cable characteristics and other technical factors. The FEIR should clarify whether the impact estimates presented in the DEIR were based on the cable route shown in Figure 1-4 or derived in some other way. It should explain how the impact estimates presented in the DEIR could vary if significant micrositing were implemented, including significant shifts in the alignment that would place a cable within the expanded portion of the OECC. The FEIR should include plans with overlays of the VWC2 and VWC1 cables on the benthic conditions plans included in Attachment C, which are at a larger scale than the map of the VWC2 route included in the DEIR. The overlays should illustrate the areas where cable installation may impact SSUs and other resources and be used to correlate surveyed conditions with estimated impacts of the VWC2 project and cumulative impacts of VWC1 and VWC2. The Proponent should use these plans to conceptually illustrate the potential for minimizing impacts through micrositing and how through this process the cable could be redirected from its planned route to the expanded areas of the OECC. The FEIR should include an evaluation at a conceptual level of potential routes of the Proponent's third pair of offshore export cables with respect to cumulative impacts on SSUs and fisheries resources.

As noted above, the Proponent's calculation of the Ocean Development Mitigation Fee provided in the FEIR does not appear to have taken temporary impacts into account. The Proponent should consult with CZM and provide an updated estimate of this fee.

Wetlands and Water Quality

As described in the DEIR, extensive marine surveys of the OECC have identified a cable installation corridor that appears to have seafloor conditions that are generally favorable for cable installation and include routes that largely avoid SSUs. Benthic impacts will be minimized through the use of a plow to install the cable in a narrow trench that is quickly backfilled. Significant impacts of the project will occur in those areas and instances where a plow is incapable of installing the cable in one pass, which may be due to the presence of hard seafloor, sand waves or operational factors. The DEIR reviewed specialty techniques that would be required to install the cable when certain benthic conditions are encountered along the route. For instances where a cable was not sufficiently buried using a plow, the FEIR should discuss the factors considered in for determining the next steps, such as whether additional plow passes will be attempted, or a specialty technique employed or armoring is necessary. The FEIR should clarify whether burial depth and sediment cover will be measured during cable installation or in post-lay surveys. The FEIR should provide greater detail on the nature and extent of potential impacts associated with the use of a controlled flow excavation jetting tool and of techniques that may be used to reposition boulders away from the cable alignment.

The FEIR should clarify why the impacts of VWC2 appear to be significantly larger with respect to impacts from skids and anchoring than those of VWC1, as presented in the assessment of cumulative impacts in the DEIR. If the techniques were proposed to be used for the VWC1 offshore export cable that have smaller impacts than those proposed for VWC2, the FEIR should include an explanation why these techniques and equipment cannot be used for VWC2. The

FEIR should provide updated cumulative impact estimates for VWC1 and VWC2, including a breakdown of impacts to SSUs from each type of activity.

The DEIR evaluated the ecological benefits of a variety of armoring materials. The FEIR should provide the additional information requested in DMF's comment letter, including potential impacts of rock armoring to fishing gear, the overall area of impacts associated with the use of gabion bags and maximum and minimum grain size of material used in the rock and gabion bag armoring options. As described in the DEIR, gabion bags appear to have similar benefits of rock armoring with respect to habitat features, but the DEIR did not indicate the width of impact over the cable alignment associated with gabion bags or potential impacts to fishing gear; this information should be provided in the FEIR.

The DEIR indicated that an update on the status of the BHMP for the VWC2 project would be provided in the FEIR to the extent more information is available. As requested by CZM, the FEIR should clarify the questions the BHMP will be designed to answer with respect to intensity and duration of impacts and recovery of benthic habitat, and demonstrate that the proposed sampling, survey and analysis methods will address those questions. The FEIR should include a BHMP that includes the information identified in CZM's comment letter, including techniques for measuring changes in benthic topography, benthic invertebrates, eelgrass and sediment drape and also provide additional details of monitoring during and after construction, including turbidity monitoring during construction. The FEIR should evaluate the potential for construction-related turbidity impacts to the eelgrass beds located at the north end of the OECC and at Cape Poge, and identify measures to mitigate impacts to eelgrass.

Rare Species and Marine Fisheries

The FEIR should provide updated information on fisheries and offshore rare species and migratory birds as presented in the COP. It should review any updates or changes made to BOEM's methodology for the assessment of impacts to state-listed species conducted during the Vineyard Wind 1 review, including any new or updated collision risk modeling. In addition, any pre-construction surveys or tracking of avian species conducted in connection with Vineyard Wind 1 or PCW/VWC2 should be provided. A noted above, I expect that the FEIR will reflect the Proponent's consultation with NHESP about these impacts and appropriate conservation measures relating to monitoring and habitat restoration and enhancement of state-listed rare birds.

The FEIR should provide a fisheries economic exposure analysis, including a description of the types of fishing activity analysis, the methodology used and the results and proposed mitigation measures. I encourage the Proponent to consult with CZM prior to filing the FEIR to discuss the scope of the analysis.

As requested by DMF, the FEIR should include a review of data available from the MA inshore bottom trawl survey on the distribution of sessile organisms or animals of limited mobility, such as shellfish and whelks, that are vulnerable to trenching activities. The FEIR should describe the proposed post-construction EMF measurement program that the Proponent will implement for the VWC1 project and describe its potential applicability to the VWC2 project. It should provide a summary of the economic exposure analysis that will be included in the COP. The FEIR should include a comprehensive review of TOY restrictions adopted for the

VWC1 project and discuss their applicability to the VWC2 project. The Proponent should consult with DMF, NHESP and CZM prior to filing the FEIR regarding potential TOY restrictions for the project, regardless of whether the consultations have resulted in final TOY restrictions. The potential for TOY restrictions to minimize the project's impacts should be thoroughly discussed in the context of the Proponent's demonstration that all practicable measures will be taken to avoid and minimize impacts.

Cultural Resources

The FEIR should provide the results of the marine archaeological assessment; to the extent possible, these results should also be shown on the benthic conditions maps. It should include a plan consistent with the BUAR's Policy Guidance for the Discovery of Unanticipated Archaeological Resource and provide an update on the Proponent's ongoing coordination with BUAR and MHC.

Article 97 and Conservation Land

The FEIR should provide an update on the project's use of open space protected under Article 97. It should describe the nature of the impacts, estimate the land area affected and provide plans of project activities within Article 97-protected open space.

Port Facilities / Environmental Justice

The FEIR should describe and provide plans of any construction or expansion of buildings, docks or infrastructure, or dredging at ports in Massachusetts to facilitate construction and operation of the project and offshore windfarm. It should include an estimate of air emissions associated with vessel traffic between the windfarm and port facilities, both during construction and post-construction operations. The assessment of air emissions should include analysis of existing public health data for the surrounding EJ population, and analyze whether the increase in emissions from the project is likely to cause disproportionate adverse effects for such population.

Climate Change

The FEIR should provide additional information on the project's GHG benefits and impacts. It should include a revised estimate of the project's grid emissions saving based on the use of ISO-NE's average marginal average emissions rate. The average GHG emission rate should be reduced on a linear basis, assuming that the grid will have an emissions rate of 200 pounds per MWh in 2050. As requested previously in the ENF Certificate, the FEIR should review measures to minimize line loss incorporated into the substation design and describe how the project will comply with the requirements related to minimization of SF_6 releases at 310 CMR 7.72.

The project will provide electricity to the electrical grid as a component of the region's critical power generation infrastructure. I encourage the Proponent to consult the new climate tool released by EEA's Resilient MA Action Team (RMAT) ((https://resilientma.org/rmat_home/designstandards/) which incorporates the best available data on climate change including data from the Massachusetts Coastal Flood Risk Model (MC-FRM)

that provides projections for flooding along the entire Massachusetts coastline based on sea level rise projection in its evaluation of the project's resiliency, including the analysis of potential impacts to the transmission cables transitioning onto shore at Craigville Beach requested by CZM. The FEIR should provide additional details on the sizing of the substation containment system to accommodate future climate conditions.

Mitigation and Draft Section 61 Findings

The FEIR should provide a separate chapter summarizing proposed mitigation measures including draft Section 61 Findings for each anticipated State Agency Action. It should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and include a schedule for implementation. As noted above, this chapter should provide a comprehensive and detailed list of all proposed mitigation measures.

Response to Comments

The FEIR should contain a copy of this Certificate and a copy of each comment letter received. To ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to enlarge the scope of the DEIR beyond what has been expressly identified in this Certificate. The Proponent may use either an indexed response to comments format, or a direct narrative response.

Circulation

The Proponent should circulate the FEIR to those parties who commented on the ENF and/or DEIR, to any State and municipal agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations.
The Proponent may circulate copies of the FEIR to commenters in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the digital copy or identifying the web address of the online version of the DEIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The FEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the FEIR should be made available for review in the Barnstable, Edgartown, Mashpee and Nantucket public libraries.[5]

K. Theoharides

June 25, 2021
Date

Kathleen A. Theoharides

Comments received:

04/20/2021	Vineyard Power
04/23/2021	Ann G. Berwick
04/23/2021	Cape Cod Climate Change Collaborative
04/30/2021	Cape Cod Community College
05/07/2021	Cape Cod Technology Council
05/10/2021	Cape Cod Chamber of Commerce
05/12/2021	Senator Julian Cyr, Cape and Islands District Representative Dylan A. Fernandes, Barnstable, Dukes and Nantucket District
05/12/2021	Barnstable Clean Water Coalition
05/24/2021	Association for the Preservation of Cape Cod
05/24/2021	Cape Cod Commission
05/24/2021	Massachusetts Historical Commission (MHC)
05/24/2021	Town of Nantucket
06/09/2021	Division of Marine Fisheries (DMF)
06/17/2021	Massachusetts Office of Coastal Zone Management (CZM)
06/17/2021	Natural Heritage and Endangered Species Program (NHESP)
06/18/2021	Massachusetts Department of Environmental Protection (MassDEP)/Southeast Regional Office (SERO)
06/21/2021	Town of Barnstable

VINEYARD POWER

OUR ISLAND • OUR ENERGY

April 20, 2021

Alex Strysky
Environmental Analyst – MEPA Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Mr. Strysky,

On behalf of Vineyard Power Cooperative, I would like to thank the Executive Office of Energy and Environmental Affairs (EEA) for the opportunity to provide comments in response to the Vineyard Wind Draft Environmental Impact Report (DEIR) for their Vineyard Wind Connector 2 project (EEA Number 16231).

The Vineyard Wind Connector 2 project is another important transmission project for our state and region which is necessary to deliver approximately an additional 800 megawatts (MW) of clean electricity into our grid. Building on the successful relationships built with the local communities over the course of permitting and developing their first project, Vineyard Wind has demonstrated that project impacts due to construction will be minimized using carefully sited buried transmission, time-of-year restrictions for both marine and upland construction, coordination with municipal infrastructure construction, and proven traffic, erosion control and stormwater mitigation measures.

Once completed the project will result in an annual reduction of approximately 1.59 million tons of carbon dioxide equivalent (CO2e) emissions across New England, the equivalent of removing approximately 320,000 cars from the road each year. Projects at this scale are essential if local towns, the Commonwealth, and the Nation are to achieve ambitious goals laid out by local governing bodies, Governor Baker and the Legislature and President Biden.

On behalf of our approximately 3,500 members, Vineyard Power Cooperative expresses our full support for all aspects of the Park City Wind project, including the Vineyard Wind Connector 2. The project's benefits far outweigh the negative impacts we face if we continue to rely on fossil fuels.

Thank you for providing an opportunity to provide feedback on this project.

Sincerely,

Richard Andre
President – Vineyard Power Cooperative

P.O. Box 1077, West Tisbury, MA 02575
t. 508.693.3002; info@vineyardpower.com
www.vineyardpower.com

Ann G. Berwick
131 Lake Avenue
Newton, MA 02459

April 28, 2021

Alex Strysky
Environment Analyst
MEPA Office
Executive Office of Energy and Environmental Affairs
alexander.strysky@mass.gov

Dear Mr. Strysky :

I am writing in support of Vineyard Wind Connector 2 and Park City Wind (the "Project"). I was Undersecretary for Energy in Massachusetts from 2006 to 2010 and chair of the Massachusetts Department of Public Utilities from 2010 to 2015. From 2006 to 2015 I was also a member of the MA Energy Facilities Siting Board. I am a member of the board of Vineyard Power and am on the Mothers Out Front legislative team and chair of its legislative Rapid Response Team.

There is really no way to say this strongly enough: we need more offshore wind. It is the only way to reach the state's and the country's greenhouse gas emissions reduction goals. Here in New England there is no resource that can compete with offshore wind. After a decade and a half of vigorous development of solar power in Massachusetts, which is an important resource even in our climate, we have approximately 2,600 MW of solar nameplate capacity. At a 14% capacity factor, that means 364 MW of solar power.

Compare the capacity of offshore wind: at 800 MW nameplate capacity and a capacity factor of 45%, the Project alone will contribute 360 MW of power to the NE grid. In other words, more energy from a single offshore wind project than from a decade and a half of solar development. Moreover, the state's recently passed *Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* requires our electric utilities to procure increased amounts of offshore wind. And President Biden has recently pledged the country to reach 30,000 MW of offshore wind by 2030.

This Project also brings additional benefits to the state and the region: an increase in the diversity and reliability of New England's energy supply, especially critical during the winter and in light of nuclear plant closings; increases in tax revenues to local governments; and thousands of local jobs.

I want in particular to highlight the jobs. Vineyard Wind is engaged in a continued effort to train and develop a southern New England-based labor force to support aspects of construction, operation, and maintenance for offshore wind projects, including this Project.

These efforts will continue in collaboration with area universities, community colleges, and vocational programs.

Does the project have any negative impacts? There is no way to build anything without some negative impacts, but in this case these impacts are largely temporary, and the DEIR provides a thoughtful analysis, including extensive measures to minimize and mitigate any environmental effects. I won't recite all of these measures here, but they include carefully sited buried transmission; time-of-year restrictions for both marine and upland construction; and coordination with municipal infrastructure construction, traffic, erosion control, and stormwater mitigation measures.

And please remember that any minimal impacts from this and other offshore wind projects are small compared to the massive impacts of climate change: on birds, on fisheries, on humans, and especially on the most disadvantaged communities. There is no question that the benefits of the Project far outweigh any negatives which, again, are largely temporary.

Thank you for considering my comments.

Sincerely,

/s/

Ann G. Berwick

BY EMAIL DELIVERY ONLY: alexander.strysky@state.ma.us

April 23, 2021

Alex Strysky, Environmental Analyst
MEPA Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston Mass 02114

Re: *Letter of Support for Vineyard Wind 2 and Draft Environmental Impact Report (DEIR)*

Dear Mr. Strysky:

On behalf of the Cape Cod Climate Change Collaborative (Climate Collaborative), I am writing to endorse the Vineyard Wind 2 project and urge MEPA approval of the project's Draft Environmental Impact Report as soon as feasible.

The Climate Collaborative is a non-profit organization whose mission is to reach carbon neutrality—or net zero—on the Cape and Islands region of Massachusetts by enhancing collaboration, communication, and activism among organizations, institutions and individuals committed to mitigating the climate crisis. Our membership of more than 2,000 individuals includes leaders from business, transportation, building, education, science, faith, clean energy, public policy, environmental protection, and activist communities across the region.

An epicenter of the existential climate crisis, the Cape & Islands region is experiencing ever-increasing sea level rise, coastal flooding, warming oceans, and storm surges resulting from climate change caused by greenhouse gas emissions. The DEIR demonstrates that offshore wind energy can be developed in a manner that protects wildlife, sensitive habitat, and maritime uses such as commercial fishing and marine navigation, while mitigating climate change impacts on our region. The project will deliver clean, renewable energy to hundreds of thousands of Massachusetts homes in 2023 and help elevate the U.S. to a leadership position in the critically important offshore wind energy industry. Expected to result in the reduction of approximately 1.59 million metric tons of carbon dioxide annually, the project will take the equivalent of 300,000 cars taken off the road in New England each year.

The Climate Collaborative strongly endorses the Vineyard Wind 2 project and its goals to substantially reduce carbon emissions by delivering clean and renewable energy to the grid. We urge expeditious approval of the DEIR to allow this important energy project to move forward.

Sincerely,

Richard Delaney

Richard F. Delaney
President, Board of Director

2240 Iyannough Road
West Barnstable, MA 02668

April 30, 2021

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: Alex Strysky, MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Draft Environmental Impact Report (DEIR) for the Vineyard Wind Connector 2 Project (EEA 16231)

Dear Secretary Theoharides,

On behalf of Cape Cod Community College, serving 6,000 students annually, we support Vineyard Wind's Connector 2 Project and urge the Massachusetts Environmental Policy Act Office to complete the DEIR review and approve the project. Vineyard Wind offers an historic opportunity for our region, delivering renewable offshore wind power to our region and creating educational and economic opportunities.

The Vineyard Wind Connector 2 Project is necessary to deliver the upwards of 800 megawatts of renewable electricity into our grid. Vineyard Wind has worked to minimize impacts due to construction using carefully sited buried transmission lines, time-of-year restrictions for both marine and upland construction, horizontal directional drilling to tunnel cables beneath a public beach in Barnstable, coordination with municipal infrastructure construction, and proven traffic, erosion control and stormwater mitigation measures.

Cape Cod Community College is committed to enabling students opportunities to enter professional careers, and the partnership with Vineyard Wind is helping with this goal. The College seeks solutions to our regional challenges, and this Vineyard Wind Project will help eliminate carbon emissions. We look to continue to build upon our partnership with Vineyard Wind through our credit programs and workforce development training offered through the Center for Corporate and Professional Education and our Cape Cod STEM Network. As an example, our Engineering and Advanced Manufacturing and Aircraft Maintenance Technology program serve as a baseline to build from in the education of technicians working with the turbine technologies.

Through Vineyard Winds leadership in expanding our nation's capabilities to produce offshore wind, this will result in the continued enhancements in wind technology, the reduction in unit costs with increased scale over time, and use and planning for more reusable and recyclable materials driving further expansion and opportunity for offshore wind. Cape Cod Community College is committed to the long-term education and training support of Vineyard Wind technicians and support staff.

On behalf of Cape Cod Community College, thank you for your consideration of our support for MEPA's review and approval of Vineyard Wind's Connector 2 Project.

Yours sincerely,

John L. Cox, President

cc: Mr. Alex Strysky, Environmental Analyst – MEPA Office

Telephone: 774-330-4300 FAX: 508-362-3988 Internet: jcox@capecod.edu

CAPE COD COMMUNITY COLLEGE
OFFICE OF THE PRESIDENT
WWW.CAPECOD.EDU

May 7, 2021

Alex Strysky, MEPA Analyst
Executive Office of Energy and Environmental Affairs
MEPA Office
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: ***Draft Environmental Impact Report, EEA Number 16231***
Vineyard Wind Connector 2 Project

Dear Mr. Strysky,

I am writing to express the support of the Cape Cod Technology Council, Inc. ("CCTC") for Vineyard Wind Connector proposed by Vineyard Wind, LLC ("Vineyard Wind"). Founded in 1996, the CCTC is a membership based non-profit organization whose mission is to promote technology, education and economic development on Cape Cod, the Islands, and Southeastern Massachusetts. Our membership includes local Cape, Islands, and Southeastern Massachusetts businesses, technology innovators, educational organizations, government entities, working professionals, and community leaders.

The CCTC supports the development of innovative solutions to meet the anticipated energy needs of the Commonwealth of Massachusetts. One of the most promising of these solutions is wind energy. The Vineyard Wind project has the potential to meeting these needs while advancing the state of wind energy technology.

On March 19, 2021, Vineyard Wind submitted a Draft Environmental Impact Report ("DEIR") for the Vineyard Wind Connector 2 Project to the Executive office of Energy and Environmental Affairs ("EEA"). The DEIR provides a detailed analysis of existing environmental conditions, potential Project related impacts, and measures to minimize those impacts. The CCTC notes that Vineyard Wind has engaged, and continues to engage, with local and regional stakeholders to minimize adverse impacts on marine and coastal habitats and communities. In light of the long-term economic and environmental benefits offered by off-shore wind projects such as Vineyard Wind, the CCTC trusts that the EEA will carefully review and appropriately act on the EEA.

The CCTC appreciates your consideration of our views. Please contact us if you have any questions.

Respectfully,

Jennifer Reid, *President*

May 10, 2021

Mr. Alex Strysky, Environmental Analyst
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Sent via Email: alexander.strysky@state.ma.us

RE: Vineyard Wind Connector 2 Draft Environmental Impact Report (EEA No. 16231)

Dear Mr. Strysky,

On behalf of our 1,234 member businesses and organizations and as a neighbor to the project, the Cape Cod Chamber of Commerce supports Vineyard Wind's Park City Wind project and specifically the transmission portion of the project known as Vineyard Wind Connector 2.

The Cape Cod Chamber of Commerce membership are keenly aware of the impacts of climate change on our coastal region. The Vineyard Wind Connector 2 will deliver 800 megawatts of renewable offshore wind energy to the New England electric grid, reducing CO_2 emissions by 1.59 million tons per year, the equivalent of removing about 320,000 vehicles from the road. It is a point of pride that our beautiful coastal communities, which rely so heavily on the seasonal tourism economy, are now leading the way to combat climate change with this new renewable energy industry.

Vineyard Wind Connector 2 offers economic benefits for Chamber members and the region's residents. This includes new job opportunities, municipal tax revenues, and economic growth throughout the supply chain including blue economy, trades, and maritime businesses all of which are vital to the year-round Cape Cod economy. The extensive benefits of the Connector 2 project are further enumerated in Section 1.5 of the DEIR.

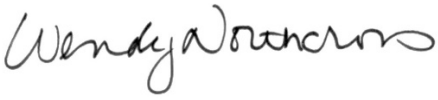
With its Vineyard Wind 1 project, Vineyard Wind has proven to be a thoughtful, collaborative community partner, listening, and responding to community voices throughout the multi-year review. They have continued that approach with Connector 2 despite the global challenges presented in 2020 & 2021. Vineyard Wind has presented at virtual public meetings and held virtual information sessions for residents to learn about the proposed onshore and offshore transmission cables, onshore substation proposed at an existing motel property on Shootflying Hill Road, and grid interconnection at the existing 345-kV West Barnstable Substation on Oak Street.

Vineyard Wind Connector 2 is similar to Vineyard Wind Connector 1, which has been fully permitted by the Commonwealth of Massachusetts. Similarities include a design that reduces environmental and

local impacts, and offers significant local benefits including tax revenues, host community payments, and enhanced grid reliability to the Cape.

The Cape Cod Chamber is pleased with the depth of analysis contained in the DEIR and believes the long-term benefits far outweigh potential impacts, many of which are short-term during construction. Thank you again for the opportunity to comment on this project.

Sincerely,



Wendy K. Northcross, CCE
Chief Executive Officer

The General Court of the Commonwealth of Massachusetts
State House, Boston, MA 02133

May 12, 2021

Mr. Alex Strysky, Environmental Analyst
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Sent via Email: alexander.strysky@state.ma.us

RE: Vineyard Wind Connector 2 Draft Environmental Impact Report (EEA No. 16231)

Dear Mr. Strysky,

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for Vineyard Wind Connector 2, the transmission and grid interconnection plan for Vineyard Wind's Park City Wind project. This project is another important step necessary towards meeting the goals of the 2008 Global Warming Solutions Act, to decarbonize New England's electricity grid, and transition to net zero emissions using renewable energy sources.

Massachusetts was a first mover in offshore shore wind energy starting with the 2016 Energy Diversity Act which called for utility-scale offshore wind energy projects. This act saw broad, bipartisan support, and an alliance of environmental, labor and business interests who saw not only the clean energy benefits, but also the opportunity to build a new business sector in the United States. The state's bipartisan support for offshore wind energy has only grown since. The recently signed Next Generation Roadmap Act raised the offshore wind procurement target to 5,600 megawatts, sets a target of net zero emissions by 2050, and authorizes sector by sector emissions limits. Other states have quickly followed our example and sought to procure clean affordable offshore wind energy for their ratepayers including Rhode Island, Connecticut, and New York. Vineyard Wind's projects and similar offshore wind projects are essential to meeting the region's emissions reduction targets.

Vineyard Wind's Park City Wind project will add 800 megawatts of renewable offshore wind energy to the New England electric grid, increasing grid reliability, improving affordability, and reducing CO_2 emissions by 1.59 million annually, the equivalent of removing 320,000 vehicles from roadways. The energy generated and transmitted from Park City Wind will reduce the region's reliance on natural gas and oil for electricity generation and reduce year-round price volatility as natural gas supplies are already constrained. Not only are new offshore wind projects vital to decarbonize the region's electricity sector, they are also essential to replace retiring fossil fuel plants, a key step in reaching environmental justice in communities where air quality is impacted negatively by such facilities.

The Draft Environmental Impact Report for Vineyard Wind Connector 2 is a comprehensive document offering deep analysis of the project plans and potential environmental impacts. The plans detailed in the DEIR have many similarities to Vineyard Wind's first project approved by the Commonwealth, including a similar transmission cables corridor, similar cable installation methods, and making landfall and connecting to the electric grid in Barnstable. The project also offers similar benefits including local economic development, job growth, municipal tax revenue, grid reliability, regional ratepayer savings, and more. After reviewing the DEIR, we believe that the project's long-term benefits significantly surpass the potential impacts, which are expected to be minor or short-term during construction.

Again, we offer our support for Vineyard Wind Connector 2 and urge you to complete a thorough review without delay.

Respectfully,

Julian Cyr
State Senator
Cape and Islands District

Dylan A. Fernandes
State Representative
Barnstable, Dukes and Nantucket District

Barnstable
CLEAN WATER
Coalition

May 20, 2021

Mr. Alex Strysky, Environmental Analyst
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Sent via Email: alexander.strysky@state.ma.us

RE: Vineyard Wind Connector 2 Draft Environmental Impact Report (EEA No. 16231)

Dear Mr. Strysky,

Thank you for the opportunity to comment on the petition for Vineyard Wind Connector 2.

I am the Executive Director of the Barnstable Clean Water Coalition (BCWC), a 501 (c)(3) nonprofit organization based in the village of Osterville. BCWC uses science to educate, monitor, mitigate, and advocate for clean water throughout the town of Barnstable. I have reviewed the Draft Environmental Impact Report (DEIR) for Vineyard Wind Connector 2 and offer support for the preferred transmission route, which will provide improvements to Barnstable's wastewater infrastructure.

This is a project in which our region can have great pride. The DEIR details the methods used to minimize impacts to benthic habitats, marine life, and residents in the town of Barnstable. The Town of Barnstable's host community agreement (HCA) with Vineyard Wind ensures residents region-wide receive the maximum benefit while minimizing impacts from construction. The HCA ensures construction will not occur during busy summer months, provides supplemental payments throughout the life of the projects, and calls for substation containment measures that go above and beyond minimum safety requirements. The cable installation methods proposed for Vineyard Wind Connector 2 minimize impacts at the Craigville Beach shoreline, Centerville River, and Route 6 crossing.

I am pleased to see Vineyard Wind and the Town of Barnstable are in discussions to co-locate critically important municipal wastewater infrastructure concurrently with Vineyard Wind Connector 2's onshore transmission, similar to the plans for Vineyard Wind Connector 1. While this wastewater infrastructure is part of the town's Comprehensive Wastewater Management Plan for wastewater expansion, the timing of the Vineyard Wind Connector 1 & 2 projects allows the town to move up their installation timeline, while saving millions in road construction costs. Long-term, this wastewater infrastructure will help address issues with nitrogen-loading in the region's lakes, rivers, and bays, a problem that causes health, safety, and environmental

issues. Tackling this major water quality issue on Cape Cod is vital to maintaining our health and blue economy. Vineyard Wind has proven to be a thoughtful, collaborative partner, demonstrating how public-private partnerships can ultimately benefit entire communities.

Barnstable Clean Water Coalition believes the long-term benefits of this energy transmission project far outweigh the temporary impacts from construction. Thank you again for the opportunity to comment.

Yours Very Truly,

Zenas Crocker, Executive Director
Barnstable Clean Water Coalition
Zcrocker@bcleanwater.org

Association to Preserve Cape Cod
Preserving the Very Nature of Cape Cod

Andrew Gottlieb
Executive Director

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May 24, 2021

Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office, Alex Strysky
100 Cambridge St., Suite 900
Boston, MA 02114

RE: Vineyard Wind Connector 2 Draft Environmental Impact Report, EEA #16231

Dear Secretary Theoharides:

The Association to Preserve Cape Cod (APCC) has reviewed the Vineyard Wind Connector 2 Draft Environmental Impact Report (DEIR) and submits the following comments.

Founded in 1968, APCC is the Cape Cod region's leading nonprofit environmental advocacy and education organization, working for the adoption of laws, policies and programs that protect and enhance Cape Cod's natural resources and quality of life.

APCC applauds the Vineyard Wind Connector 2 project's stated purpose to provide utility-scale renewable energy that, according to the DEIR, will result in an annual reduction of 1.59 million tons of CO2 emissions in New England, the equivalent of removing 320,000 new cars from the road. Nitrogen oxides are expected to decrease across New England by 850 tons per year and sulfur dioxide by 450 tons per year. Offshore wind will improve energy security and reliability by reducing reliance on fossil fuels and supporting the transition to a renewable energy grid. The rapid deployment of offshore wind is essential to achieve the Commonwealth's and the Northeast region's greenhouse gas emission reduction targets and limit the worst impacts of climate change.

The project benefits described above match those of the Vineyard Wind 1 project, which was recently approved by the Bureau of Ocean Energy Management (BOEM). On December 19, 2018, APCC issued a public statement endorsing the Vineyard Wind 1 project, becoming the first nonprofit environmental organization in the

nation to do so. The decision to support the project followed comprehensive review by APCC of the project's multiple state regulatory filings through the Massachusetts Environmental Policy Act process, as well as the release of BOEM's Draft Environmental Impact Statement for the project.

APCC's review of the Vineyard Wind Connector 2 DEIR draws from the analysis conducted and conclusions reached by APCC for Vineyard Wind 1. Given the similarities between Vineyard 1 and Vineyard Wind Connector 2 in proposed offshore and onshore routing, construction, operation, best management practices, monitoring, mitigation and other aspects of the project, including minimizing potential impacts to rare species, APCC does not see the likely potential for concern about additional environmental impacts, or the project's ability to properly mitigate any impacts that may occur. The project will continue with, and expand on, the first Vineyard Wind project's approved best management practices, monitoring and research, and investment mitigation aimed at protecting marine species—especially marine mammal species—and avian and bat species from offshore wind impacts.

The Vineyard Wind Connector 2 preferred alternative for the proposed offshore and onshore routes appears to provide the least potential impact to environmental resources. APCC supports the applicant's preferred route for the onshore cables, but does not support the identified variants that would impact Article 97 lands, wetlands or rare species habitat. (APCC acknowledges the unavoidable project work proposed for wetlands, rare species habitat and Article 97 lands at the proposed Craigville Public Beach onshore landing site or the alternative Covell's Beach site, which is not likely to adversely affect natural resources at either location.)

In reviewing the DEIR, APCC notes there are still some aspects of the project that have not yet been finalized or clarified, such as:

- The specific details of an Oil Spill Response Plan for offshore refueling of construction vessels.
- The choice of a method for crossing the Centerville River. The project applicant should provide further clarification on plans to avoid any impacts to wetlands or wetland buffers at this location. More study should be done on the feasibility of the techniques being considered and the preferred method chosen, with the primary objective being protection of wetland resources.
- A finalized Spill Prevention, Control and Countermeasures Plan for the substation site. The DEIR states that the site design is intended to contain 110 percent of the dielectric fluid at the site, plus an additional 30 inches of storage to contain rainfall for extreme events. APCC's expectation is that the spill prevention plan will be similar to, and as

effective as, the plan developed for the Vineyard Wind 1 substation. Since the proposed substation site is located in a Zone II, it is critically important that the quality of groundwater be protected from potential contamination.

- A stormwater pollution prevention plan for construction activity along the onshore cable route.
- Continued coordination with the Natural Heritage and Endangered Species Program for avoiding, minimizing and mitigating potential impacts to rare species habitat, including but not limited to finalization of a Piping Plover Protection Plan.
- Other appropriate mitigation for any land clearing at the substation or other sites along the onshore cable route. This mitigation should be finalized in the Cape Cod Commission's Development of Regional Impact review process.

APCC looks forward to reviewing additional information on the above issues in the subsequent EIR submission and in the Cape Cod Commission regulatory review process for the project.

Finally, APCC commends Vineyard Wind for pursuing discussions with the town of Barnstable about laying the project's land-based cables in coordination with Barnstable's planned sewer installation along the same route. As described in the DEIR, doing so would minimize construction disruptions along the route and save the town money. Most important, the end result will reduce wastewater impacts on water resources, including impacts to Wequaquet Lake—another significant project benefit in addition to the clean energy the project will provide.

APCC thanks the Secretary for this opportunity to provide comments.

Sincerely,

Andrew Gottlieb
Executive Director

3225 MAIN STREET • P.O. BOX 226
BARNSTABLE, MASSACHUSETTS 02630

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

CAPE COD COMMISSION

Via Email

May 24, 2021

Kathleen A. Theoharides, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Alex Strysky, MEPA Analyst
100 Cambridge Street, Suite 900, Boston, MA 02114

Re: Draft Environmental Impact Report – EEA No. 16231-Vineyard Wind Connector 2, Barnstable

Dear Secretary Theoharides:

Thank you for the opportunity to provide comment on the above-referenced matter.

Cape Cod Commission staff believe the proponent has further detailed the relevant issues and alternatives being considered during the project's subsequent MEPA review. After MEPA review concludes, the Cape Cod Commission will conduct Development of Regional Impact (DRI) review on the project.

As with the Commission's comments on the Environmental Notification Form, Commission staff's attached comments are geared primarily to DRI review of the project, namely the Cape Cod Regional Policy Plan (RPP) issues the Commission will take up during DRI review, and some of the specific plans, studies, and other information the proponent will need to provide for DRI review. Nonetheless, the proponent's submissions and responses to these comments during the MEPA process might assist state agency reviews as well.

Please do not hesitate to contact Commission staff with any questions about these comments.

Sincerely,

Kristy Senatori

Kristy Senatori
Executive Director

ENC
cc: Project File
via email-
Corinne Snowdon, Epsilon Associates
Mark Ells, Barnstable Town Manager
Fred Chirigotis, Barnstable Cape Cod Commission Representative
Harold Mitchell, Cape Cod Commission Chair
Elizabeth Taylor, Cape Cod Commission Committee on Planning and Regulation Chair

Attachment - Cape Cod Commission Comments - Vineyard Wind Connector 2 DEIR

As previously stated in the Commission's comments on the Environmental Notification Form, the Vineyard Wind Connector 2 project is similar in many respects to Vineyard Wind Connector 1, for which the Cape Cod Commission previously granted Development of Regional Impact approval. Accordingly, many of the DRI review issues, approaches and resolutions will likely be similar between the projects. As a general comment, Commission staff appreciates the DEIR's expanded discussion of the Host Community Agreement between the proponent and the Town of Barnstable. The HCA was a significant consideration in the Cape Cod Commission's review and approval of the first Vineyard Wind connector project. The project's impacts on grid resiliency for Cape Cod will also be considered during DRI review.

The following are comments on the expanded information provided in the DEIR with regard to the Cape Cod Regional Policy Plan's goals and objectives relevant to the Vineyard Wind Connector 2 project:

Natural Resources (Open Space, Habitat, Wetlands, and Coastal Resiliency)

The DEIR provides a thorough alternatives analysis of onshore cable installation routes, substation sites, and construction techniques. The Preferred Alternative appears the least complicated to construct, avoids crossing wetlands and Article 97 land to the maximum extent feasible, minimizes tree clearing, is located mostly within existing roadways and rights-of-way, and can be coordinated with the Town's sewer infrastructure installation. Commission staff does not anticipate adverse impacts to natural resources from the proposed onshore cable installation routes presented provided proposed construction best practices are followed.

The DEIR describes the steps the proponent will take for any Article 97 required disposition approvals, including compensation. The relocation of the entire step-up substation to the Shootflying Hill Road site reduces land clearing associated with the project. The proponent should continue to look for opportunities to further reduce tree clearing.

The DEIR includes two draft Natural Resources Inventories (NRI) for the parcels where substantial land clearing is proposed. For streamlined DRI review, the two draft NRIs should be combined into one project NRI. The NRI should serve as a guide for the layout of the developments on these parcels and inform the development of management plans for soils, vegetation, and invasive species, as well as open space mitigation. Screening of the proposed substation should be consistent with the pitch pine-oak forest type identified in the NRIs by utilizing hardy native species adapted to Cape Cod's soils and current and future climate conditions. The NRI will inform mitigation required during DRI review.

Project activities in wetland buffer areas along the preferred onshore cable installation route are limited to construction activities in disturbed areas such as roadways. The environmental controls proposed should minimize potential impacts. The Craigville Beach landfall and Centerville River crossing are within wetland resource areas, floodplain, and BioMap2 Critical Natural Landscape. The landfall is also mapped rare species habitat for piping plover, common tern, least tern, and roseate tern. The Centerville River has an alewife run and American eels. Proposed horizontal directional drilling at the landfall will avoid impacts to bird nesting areas and micro-tunneling under the Centerville River will avoid impacts to fish. The proponent should continue to consult with NHESP on a rare species protection plan to minimize impacts to rare birds.

The DEIR assesses the project based on a projected life of 30 years in relation to sea level rise, erosion, and hurricane projections and models. The proponent should discuss the likelihood of

decommissioning or retrofitting at 30 years, and a longer planning period for its transmission infrastructure should be considered if a longer project life is anticipated.

Water Resources

As noted in the Commission's ENF comments, portions of the project fall within a variety of mapped Water Resource protection areas. The proposed substation on Shootflying Hill Road is within mapped Wellhead Protection Area (Barnstable Fire District) and Marine Water Recharge Area (MWRA) (Barnstable Harbor). The West Barnstable substation and adjacent 2.8-acre forested parcel are within mapped Freshwater Recharge Area (Garretts Pond) and MWRA (Barnstable Harbor). The transmission cable route runs through or adjacent to areas designated for Wellhead Protection, Freshwater Recharge, MWRA, and Potential Public Water Supplies.

As requested in the Commission's ENF comments, discussion of air insulated substation vs. gas insulated substation design, the reallocation of substation equipment, and the implications for tree clearing and site disturbance has been included in the Response to Comments (Section 12). Details on the containment system design proposed to prevent impacts to groundwater and drinking water from hazardous materials are provided in Section 2.3.1. The general design principles are identical to those employed by Vineyard Wind Connector 1. Additional details specific to the equipment and layout of Vineyard Wind Connector 2 are provided in the Response to Comments and appear to provide sufficient detail to evaluate the efficacy of the containment system.

The DEIR provides significant information on the West Barnstable substation, but additional clarification regarding whether the substation upgrades mentioned in Section 2.4 require any additional site coverage or impervious surfaces will be helpful during later review. Further details of substation upgrade design and anticipated schedule as determined from the ISO-NE System Impact Study should be provided when available.

The general approach to stormwater management on the substation site has been detailed in Section 2.3.1 and a Draft Stormwater Management Report for the new substation has been included as Attachment N. Construction phasing and erosion control measures are outlined in Section 10.1.5. Together these resources provide sufficient detail to evaluate the proposed stormwater management system. Sitewide nitrogen loading is referenced in the Stormwater Management Report (Appendix N), and a calculation of existing and proposed nitrogen loading will be required for DRI review. This comparison of existing and proposed nitrogen loading will be helpful for determining impacts or improvements to Zone II water quality during DRI review.

Community Design

Several portions of the project discussed in the Commission's ENF comments are no longer part of the project, including the potential reconstruction of the bridge crossing the Centerville River and the expansion of the West Barnstable substation within the boundaries of the Old Kings Highway Regional Historic District. In the DEIR, the substation is now proposed entirely at the Shootflying Hill Road site, which helps to limit its visibility from sensitive character areas. It will be important to address the retention of enough existing vegetation and adequate buffering to the adjacent residences during DRI review.

Cultural Resources

The DEIR identifies all inventoried and designated historic and archaeological resources along the onshore preferred and alternative transmission routes and grid interconnection routes. Because the construction will be limited to areas already disturbed underneath roadways and road rights-of-way,

the project is unlikely to have negative impacts on these resources. The proponent and their consultant, PAL, appropriately recommend a variety of measures to protect other archaeologically sensitive areas identified within the project area. These include intensive archaeological survey work in key sensitive areas (including portions of the proposed substation site) to identify potentially significant sites, and monitoring during pre-construction and construction in areas of high and moderate archaeological sensitivity. Archaeological work is on-going under permits from MHC on shore and from BOER under water, addressing areas where the offshore cable corridor was expanded from the previous Vineyard Wind project.

Transportation

Continued discussions with the Town of Barnstable and MassDOT regarding coordination on future roadway and infrastructure projects that may coincide with the Vineyard Wind 2 offshore utility work (including the future Cape Cod Rail Trail extension project, a future Route 6 (Mid-Cape Highway) widening project and the sewer installation in Centerville) are encouraged and should be detailed as part of a future DRI submission. Additionally, discussion with the Cape Cod Regional Transit Authority (CCRTA) is encouraged as they provide transit service within the Centerville area which could be affected. Traffic management plans and strategies should continue to be refined in coordination with MassDOT and the Town as the project progresses and should be included as part a future DRI submission.

Additional details regarding construction impacts to existing infrastructure, including roads, sidewalks, signage, pavement markings, curb ramps, traffic signal equipment, street trees, and other infrastructure, should be provided. Impacted infrastructure should be replaced to the same or better condition. The proponent should clarify the pavement restoration plans for the affected roadways and intersections, including limits and widths. On affected roadways where work will be performed in the shoulder area, there may be an opportunity to leave a graded surface that would be suitable for future installation of sidewalks or multi-use paths, if desired by the Town.

Ocean Resources

The proposed offshore cable installation generally avoids, minimizes, or mitigates impacts to sensitive ocean resource areas and protects human uses through mitigations such as appropriate siting, time-of-year restrictions, and best construction practices.

The DEIR proposes some widening of the Offshore Export Cable Corridor (OECC) to ensure areas that might be used for cable installation or associated activities have been surveyed, mapped, and characterized, and to enhance the project's ability to micro-site the offshore export cables within the OECC, as part of ongoing efforts to avoid and minimize impacts to sensitive habitats. Marine surveys of these expanded areas of the OECC were conducted in 2020 and results presented in the DEIR. The survey showed general alignment with previous surveys and identified the presence of a mix of species and benthic habitats. Impacts to North Atlantic Right Whale habitat and eelgrass resources are avoided and areas of hard/complex bottom that may be affected are being minimized. Proposed horizontal drilling at the cable landfall will also avoid sensitive resources including hard/complex bottom and eelgrass.

Commission staff recommends continued refinement of route and installation techniques based on new site condition information that becomes available between planning and construction. Ongoing surveys may be required to further refine the cable route and installation methods as offshore construction is not anticipated to commence until 2024.

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

May 18, 2021

Secretary Kathleen A. Theoharides
Executive Office of Energy & Environmental Affairs
Attn: Alex Strysky, MEPA Unit
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Vineyard Wind Connector 2/Park City Wind Offshore Wind Energy Project, Massachusetts, BOEM Lease Area OCS-A 0501 South. MHC #RC.68273. **EEA #16231.**

Dear Secretary Theoharides:

Staff of the Massachusetts Historical Commission (MHC), office of the Massachusetts State Historic Preservation Officer, have reviewed the Draft Environmental Impact Report (DEIR), submitted by Epsilon Associates, Inc., for the project referenced above.

The MHC will continue to review the project in consultation with the Bureau of Ocean Energy Management (BOEM) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). The MHC looks forward to continued consultation with the involved federal and state agencies.

A paper copy of the Construction and Operations Plan (COP) referenced in Table 1-2 should be submitted to the MHC by the project proponent.

The identification effort for and evaluation of project effects on historic and archaeological resources described in DEIR Section 5.0, and summarized in Table 11-1 (pg. 11-6), is incomplete. The offshore export cable aspect of the project is within the Nantucket Sound Traditional Cultural Property (TCP; MHC #BRN.9072, CHA.938, DEN.930, EDG.907, FAL.973, HRW.918, MAS.916, NAN.939, OAK.902 and TIS.904), included in the MHC's Inventory. The Nantucket Sound TCP is considered by MHC staff to include the paleolandforms previously identified during marine archaeological survey conducted on Horseshoe Shoals and the Vineyard Wind 1 cable export corridor in proximity to the project.

The Chappaquiddick Island Traditional Cultural Property has also been defined as part of the Vineyard Wind 1 project federal cultural resources identification effort. Chappaquiddick Island includes multiple historic and archaeological resources included in the MHC's Inventory. The DEIR does not describe these TCPs or evaluate the potential project effects to these TCPs.

Newly identified paleolandforms (pp. 5-6, 5-7) that may contain intact, significant archaeological resources within Nantucket Sound are incompletely presented in the DEIR. The results of ongoing marine archaeological reconnaissance surveys should be submitted to the MHC and Massachusetts Board of Underwater Archaeological Resources (MBUAR) as they become available.

Regarding the onshore aspect of the project, the MHC looks forward to reviewing a State Archaeologist's permit application (950 CMR 70) from the PAL to conduct intensive (locational) archaeological survey and/or archaeological monitoring within all archaeologically sensitive project impact areas. Archaeologically sensitive project impact areas in Barnstable include, but may not be limited to, portions of the export cable route and staging area at Craigville Beach, any undisturbed access routes, equipment storage and materials staging areas proposed for ground impacts, the Centerville River microtunnel entrance and exit locations, and portions of the Route 6 crossing northern terminus (Parcel 214-001), and 8 Shootflying Hill Road Substation.

Sections 1.5.2 (pg. 1-20) and 1.5.3 (pg. 25) indicate that proposed export cable impact areas within Barnstable roadways overlap project impact areas proposed by the Town of Barnstable for new sewer installations. The MHC has reviewed phased wastewater infrastructure installation under the Barnstable Comprehensive Wastewater Management Plan (MHC #RC.52494; EEA#16148). Project planners should submit current project information to the MHC for the complete electrical/sewer installation project for review and comment. Additional archaeological investigations may be required within archaeological sensitive portions of the entire project impact areas.

The MHC looks forward to reviewing the draft written Post-Review Discoveries protocol for the project that should be prepared and submitted by the PAL. The protocol should be developed consistent with a similar document already developed for the Vineyard Wind 1 project, and the Massachusetts Unmarked Burial Law (Massachusetts General Laws, Chapter 38, Section 6; Chapter 9, Section 26A and 27C; and, Chapter 7, Section 38A; all as amended). Implementation of the protocol will facilitate any future consultation that may be required to avoid, minimize or mitigate adverse effects to any significant archaeological resources, including unmarked human burials, identified during project construction.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), Massachusetts General Laws Chapter 9, Sections 26-27C (950 CMR 70-71), and MEPA (301 CMR 11). If you have any questions, please contact Jonathan K. Patton, at this office.

Sincerely,

Brona Simon

Brona Simon
State Historic Preservation Officer
Executive Director
State Archaeologist
Massachusetts Historical Commission

xc: Brandi Carrier, BOEM
Tammy R. Turley, USACOE-New England District
Bettina Washington, Wampanoag Tribe of Gay Head (Aquinnah)
David Weeden, Mashpee Wampanoag Tribe
David Robinson, MBUAR
Sara Korjeff, Cape Cod Commission
Daniel W. Santos, Barnstable Department of Public Works
Barnstable Historical Commission
Rachel Pachter, Vineyard Wind, LLC
Deborah C. Cox, PAL, Attn: Duncan Ritchie
Kim Smith, Gray & Pape, Inc.
Marc Bergeron, Epsilon Associates Inc.

Town and County of Nantucket
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C. Elizabeth Gibson
Town & County Manager

May 24, 2021

Mr. Alex Strysky, Environmental Analyst
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Sent via Email: alexander.strysky@state.ma.us

RE: Vineyard Wind Connector 2 Draft Environmental Impact Report (EEA No. 16231)

Dear Mr. Strysky:

I write on behalf of the Town of Nantucket in support of the Draft Environmental Impact Report for Vineyard Wind Connector 2, the transmission portion of Vineyard Wind's offshore wind development to be located 23 miles south of Nantucket.

Nantucket sees firsthand the impacts of climate change on our natural, historic, and cultural resources and understands the importance of timely, responsible action including decarbonization of the electricity grid regionwide. The Vineyard Wind Connector 2 will transmit enough renewable energy to power over 400,000 homes, bring grid reliability to the region, provide regional ratepayer savings, and other benefits described in Section 1.5.

The Town of Nantucket is pleased to have reached a joint agreement with Vineyard Wind and local nonprofits to bring responsible development of offshore wind to the waters off the coast of Nantucket. This partnership fosters a long-term cooperative and mutually beneficial relationship between the Town and Vineyard Wind.

Vineyard Wind Connector 2 is similar in scope and locale as Vineyard Wind Connector 1. The Town is pleased with the depth of analysis contained in the Vineyard Wind Connector 2 Draft Environmental Impact Report, specifically the proposal to use minimally impactful cable installation methods such as jet plows.

Vineyard Wind has been a proactive community partner and we look forward to continued community engagement as the Vineyard Wind Connector 2 progresses through regulatory review.

Sincerely,

C. Elizabeth Gibson
Town Manager

The Commonwealth of Massachusetts
Division of Marine Fisheries
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CHARLES D. BAKER, Governor
KARYN E. POLITO, Lt. Governor
KATHLEEN A. THEOHARIDES, Secretary
RONALD S. AMIDON, Commissioner
DANIEL J. MCKIERNAN, Director

June 9, 2021

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky, EEA No. 16231
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides:

The Division of Marine Fisheries (MA DMF) has reviewed the Draft Environmental Impact Report (DEIR) and the May 28, 2021 Information to Supplement the DEIR by Vineyard Wind LLC for the Vineyard Wind Connector 2 project, which is part of the larger Park City Wind Project. The overall Park City Wind project includes an 800 MW wind turbine array in the central section of BOEM Lease Area OCS A-0501, which is located to the south, southwest of Vineyard Wind 1. The array is anticipated to include from 50 to 81 Wind Turbine Generators (WTGs) outfitted with monopile or piled jacket foundations and oriented in an east-west, north-south grid with 1 nautical mile spacing. The overall project infrastructure includes an offshore electrical service platform, 2 offshore export cables, and an onshore substation in Barnstable.

The Vineyard Wind Connector 2 project (VW2) represents the portion of the Park City Wind project that is within Massachusetts state waters (the OECC is 63 miles long with approximately 23 miles in Massachusetts) and includes only the OECC. VW2 will largely utilize the OECC developed for the Vineyard Wind Connector 1. However, the OECC has been widened by approximately 985 feet to the west, and also 985 to the east in a section running along Muskeget Channel, increasing the average width to 3,800 feet with a range in width between 3,100 and 5,100 feet.

The cable route would travel between Martha's Vineyard and Nantucket through Muskeget Channel, then continue north through Nantucket Sound to landfall at Craigville Public Beach or Covell's Beach in the Town of Barnstable. It would go through the town waters of Edgartown, Nantucket, Barnstable, and possibly Mashpee. The proposed OECC would contain two 220-kV three-core alternating current (AC) cables and one or more fiber optic cables for communication, temperature measurement, and protection of the high voltage system with a typical separation between cables of 165 feet. The Vineyard Wind 2 cables would be installed with a minimum separation of 330 feet from the Vineyard Wind 1 cables with greater separation anticipated in the deeper regions of the cable route. The target cable burial depth is 5-8 feet. In areas containing sand waves, dredging is anticipated to achieve adequate burial depth, resulting in estimated

potential dredge volumes in state waters up to 106,000 cubic yards across a 25 acre area. An additional 18 acres and 12.7 acres of impact are anticipated from trenching and anchoring, respectively, in state waters. For areas where burial is not feasible, hard structures may be used as cable protection in the form of rock, gabion rock bags, concrete mattresses, or half-shell pipes. Offshore cable installation is proposed using jetting, jet plow, plow, or mechanical trenching. Proposed dredging methods consist of trailing suction hopper dredge (TSHD) or jetting by controlled flow excavation. If TSHD is used, dredge material would be transported and deposited elsewhere within the surveyed area containing sand waves. Horizontal directional drilling (HDD) will be used for the approximate 1,000 to 1,200 foot section reaching the landfall site.

As outlined previously in our Environmental Notification Form (ENF) comment letter, the OECC traverses habitat for a diverse array of fish and invertebrate species. The primary resources of concern in Nantucket Sound that are vulnerable to the adverse effects of cable laying and EMF include (but are not limited to) shellfish, longfin squid (*Doryteuthis pealeii*) and squid eggs, knobbed (*Busycon carica*) and channeled (*Busycotypus canaliculatus*) whelk, and flatfish. Both commercial and recreational fisheries are active throughout the OECC area.

MA DMF previously reviewed the ENF for this project and submitted a comment letter to MEPA on July 28, 2020 including recommendations for consideration in developing the DEIR. The DEIR includes a copy of our comment letter with responses to our individual comments (DEIR 12-41 to 12-46). While some of our ENF comments are clearly and adequately addressed in the DEIR responses or subsequently in the DEIR Supplement, some information requested for inclusion in the DEIR remains outstanding. In many instances, the response section did not directly answer our information requests but instead referenced responses to other agency comment letters or general sections of the DEIR. The response section should provide direct point-by-point answers to our posed questions and information requests to allow us to more efficiently assess the degree to which the DEIR addresses the recommendations provided from the ENF review. We further detail our responses to outstanding requests made previously in our ENF comment letter and provide recommendations for drafting the Final Environmental Impact Report (FEIR) below:

Habitat and Marine Resource Characterization

- MA DMF recommended that the DEIR document the distribution of species vulnerable to cable trenching activities (shellfish, whelks, squid eggs) as well as strategies for minimizing impacts to these resources. Section 9.1.1 of the DEIR describes observations of squid eggs and bay scallops in relation to towed video surveys but fails to reference other sessile or low mobility species or life stages (e.g., whelks, whelk eggs, horseshoe crabs, shellfish). It also does not include any information beyond the video surveys conducted along the OECC. A more comprehensive description of these resources that are highly sensitive to cable laying activities is needed. Specifically, information from the MA inshore bottom trawl survey would provide a better representation of the resources present in the general OECC region than a narrow video survey alone. For example, still photos or video tracks alone are not appropriate survey methods for whelk presence, since they typically bury in the sediment during daylight hours, thus negatively biasing visual presence estimates. Similarly, while bay scallops were detected in the video survey, the high annual variability in bay scallop abundance and distribution following a

"boom or bust" pattern limits the predictive value of data collected during a single season and year.

- Attachment C of the DEIR provided some added detail to the substrate mapping data presented in the previous ENF filing. However, the DEIR does not address further requests by MA DMF for substrate data. MA DMF requested that all substate data be produced in the same Excel spreadsheet as the Commonwealth's substrate data and interpreted substrate units be produced as an ArcGIS shapefile or geodatabase. All data should be provided digitally in formats compatible with ArcGIS to enable comparison with existing datasets. Acoustic mosaics should be provided as geotiffs at the maximum resolution possible. There should be at least four geotiffs provided: multibeam backscatter, sidescan sonar backscatter, multibeam bathymetry, and backscatter draped on bathymetry. The date of data collection should be easily discernable for all products.
- MA DMF requested that the DEIR include detailed descriptions of the existing benthic habitat including survey results of sediment type and benthic invertebrates. While Section 2.7.4 and Attachment C contain sediment type information, information on benthic invertebrate survey results is currently lacking.
- MA DMF continues to request that seafloor features be described using the Coastal and Marine Ecological Classification Standard (CMECS). Vineyard Wind states in the DEIR that it "anticipates including the CMECS mapping in the VWC2 FEIR" (DEIR Response to MEPA 21; 12-11). MA DMF looks forward to the presentation of the CMECS mapping in the FEIR.

Communication with Stakeholder Groups

- The DEIR identified a commitment to coordinate with MA DMF to avoid any direct conflicts between cable laying activities and the MA DMF spring and fall bottom trawl surveys. Communications should be direct to Matt Camisa, the MA DMF resource assessment project lead biologist, to identify the locations of proposed cable laying activities in MA state waters during May and September. Communications can be sent electronically to: matt.camisa@mass.gov.
- The FEIR should also add further detail regarding potential prohibition or relocation of fishing due to survey, installation, or repair procedures. The DEIR states: "Close coordination with fixed-gear fisheries will be necessary prior to construction to ensure fishermen are not placing gear along the cable alignments at the time construction activities begin in a particular section of the route" (DEIR Section 9.1). This statement suggests a temporary restriction on fishing access that should be better detailed in the FEIR. The DEIR refers to safety zones but does not provide further relevant details, specifically safety zone anticipated size, how long they are expected to be in place for any given project phase, and communication plans to notify fishermen of both when gear needs to be relocated outside of a construction area and when it is safe to return gear to these areas. The DEIR Supplement does detail a "Notices to Mariners" protocol being used to inform vessels and Project website updates of construction activities. Given that the waters within the OECC are fished by vessels from a variety of ports, it would be helpful to detail the Notice to Mariners distribution list in the FEIR. Further detail is also required regarding potential fishing gear conflicts in areas where cable armoring is required. Section 9.1 of the DEIR also states: "Should the Project not be able to achieve

target burial depth in certain areas, cable protection may be required. In such cases, it will be designed to minimize impacts to fishing gear, when possible, and fishermen will be informed of the areas where protection is used." The FEIR should further detail how fishermen will be informed to ensure that the different stakeholder groups fishing in these areas are aware of these structures.

Marine Impact Characterization

- The proposed post-cable installation EMF monitoring for Vineyard Wind 1 described in the DEIR Supplement will provide information on field EMF conditions for the project area under different burial depths (~ 3-6 feet). Additional monitoring along areas where burial in not feasible (i.e., armored sections) should also be performed. EMF impacts on many important local species have not been studied and published with peer review. Given this consequent uncertainty regarding potential EMF impacts and the large area of seafloor proposed to include cable for this and other WEA projects, further experimental investigation of the interaction between EMF and potentially susceptible species is warranted (Hutchison *et al.*, 2021). A targeted study would improve the understanding of EMF impacts on local species and provide an important reference for current and future cable projects in local waters. Recent modeling indicates that burial reduces but does not eliminate emissions (Hutchison *et al.*, 2021). While this modeling was based on HVDC cables and Vineyard Wind 2 is proposing HVAC cables, results nonetheless demonstrate that cable burial cannot be assumed to fully mitigate EMF impacts. Without a better understanding of fish and invertebrate response to EMF emissions, it will be difficult to assess the adequacy of burial as mitigation in cases where low levels are still detected in the overlying substrate surface and water column.
- The DEIR Supplement provides some useful discussion of the different potential armoring materials and their relative ecological value. The FEIR should also provide information on the vulnerability to fishing gear impacts of each material. The DEIR only notes potential anchoring and/or trawling impacts anticipated for the half-shell pipes proposed for cable crossings. Potential anticipated conflicts with fishing activity for the other protection materials and designs still need to be assessed. The rock burial would appear to be more vulnerable to gear impacts than the other protection methods considered in the DEIR, but its potential vulnerability is not discussed. The rock cover option should also be further detailed in terms of the anticipated maximum and median grain size in addition to the reported minimum (2.5") size. The same details should be provided for the rocks that would be included in the gabion bag approach. Anticipated width should also be described for the gabion bag design. The area is estimated to be greater for the rock cover option due to required side slopes, but it is unclear if this greater width would be required for the gabion bag design. The concrete mattress appears to be presented as the preferred alternative in the DEIR. While it appears to be more protective against gear or anchor interactions than the other armoring designs, it would likely provide less habitat value than rock or gabion rock bags since the concrete mattresses would have fewer interstitial spaces (Callaway, 2018). If a concrete mattress approach is pursued as the preferred alternative, it would be beneficial to incorporate additional interstitial spaces into the mattress design to increase the habitat value of this armoring type.

- The DEIR Supplement provides some additional discussion of anticipated time-of-year (TOY) restrictions on cable laying activities in addition to anticipated TOYs for landfall work associated with piping plover nesting and Town of Barnstable stakeholder conflicts detailed in the main DEIR. While MA DMF agrees that specific TOY restriction conditions can be developed in the permitting process, information on anticipated timing of cable laying would be helpful to include in the FEIR as such information is relevant in determining the extent to which construction activities might directly impact marine resources and by association the need to characterize the distribution of potentially sensitive species. This is particularly relevant for squid eggs in Nantucket Sound waters.
- The Fisheries Monitoring Plan associated with Vineyard Wind 1 still has outstanding issues requiring resolution (see attached MA DMF comment letter submitted to MA DEP on April 1, 2021). These issues remain relevant to the current Vineyard Wind 2 project given the high degree of spatial and methodological overlap across projects and by association similarity in potential impacts to marine fisheries resources. The DEIR Supplement Item 3, Fisheries monitoring and mitigation, only discusses mitigation and communication with fishing industry stakeholders and does not include proposed monitoring activities. These issues should be addressed in the FEIR.

Questions regarding this review may be directed to John Logan in our New Bedford office at john.logan@mass.gov.

Sincerely,

Daniel J. McKiernan

Director

cc: Barnstable Conservation Commission
Edgartown Conservation Commission
Mashpee Conservation Commission
Nantucket Conservation Commission
Amy Croteau, Barnstable Natural Resource Officer and Shellfish Constable
Corinne Snowdon, Epsilon Associates
Alison Verkade, Sue Tuxbury, Kaitlyn Shaw, NMFS
Lisa Engler, Todd Callaghan, Robert Boeri, Steve McKenna, CZM
Ed Reiner, Tim Timmerman, EPA
Amy Hoenig, Eve Schluter, DFW
David Wong, David Hill, David Johnston, Mille Garcia-Serrano, DEP
Tori LaBate, DFG
Tracy Pugh, Steve Wilcox, Derek Perry, Melanie Griffin, Kelly Whitmore, Erin Burke, Robert Glenn, Tom Shields, Eileen Feeney, Ryan Nuttall, Mark Rousseau, Kevin Creighton, DMF

References

Callaway, R. (2018). Interstitial space and trapped sediment drive benthic communities in artificial shell and rock reefs. *Frontiers in Marine Science*, *5*, 288.

Hutchison, Z. L., Gill, A. B., Sigray, P., He, H., & King, J. W. (2021). A modelling evaluation of electromagnetic fields emitted by buried subsea power cables and encountered by marine animals: Considerations for marine renewable energy development. *Renewable Energy*, *177*, 72–81.

DM/JL/KW/SW/TP/MP/MR/sd

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Division of Marine Fisheries

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CHARLES D. BAKER, Governor
KARYN E. POLITO, Lt. Governor
KATHLEEN A. THEOHARIDES, Secretary
RONALD S. AMIDON, Commissioner
DANIEL J. MCKIERNAN, Director

Mr. David Wong
MassDEP
Via email

April 1, 2021

Dear Mr. Wong,
The Massachusetts Division of Marine Fisheries (MA DMF) has reviewed the correspondence from Vineyard Wind from March 5, 2021 regarding amendments to their fisheries survey plan to address the 401 Water Quality Certification conditions #33 and #34 regarding Fisheries and Shellfish Survey Plans.

Condition #33 requires the Fisheries Survey Plan to be "prepared in consultation with University of Massachusetts Dartmouth School for Marine Science and Technology, the MA DMF, CZM, MassDEP, fishermen, the fisheries science community and other stakeholders to inform that effort and design the study."

Condition #34 requires the Shellfish Survey Plan to be "prepared in consultation with the MA DMF, CZM, and MassDEP."

A Fisheries Survey Plan was developed by Vineyard Wind in the winter/spring of 2018-2019. Several meetings were held that included fisheries and regulatory stakeholders. To our knowledge, MassDEP did not participate in those meetings and did not participate in the development of the Fisheries Survey Plan. The Fisheries Survey Plan was never formally approved by MA DMF. There is no separate Shellfish Survey Plan that MA DMF is aware of. Our comments on the Vineyard Wind permit applications and environmental impact assessments consistently recommend improved survey designs.

The Fisheries Survey Plan focuses on federal water surveys. In the summer of 2020 it was clear that fisheries surveys in state waters were not being planned or conducted, and we worked with MassDEP and CZM to draft a proposed approach to surveys that could address the state permitting requirements to include sampling in state waters.

The approach we took was to identify our key questions first. Our questions were focused on addressing concerns related to cable laying in Nantucket Sound that can inform the Commonwealth's assessment of impact associated with Vineyard Wind's current project. We also prioritized questions that can improve our management of this project and inform expected future cable laying in Nantucket Sound.

We recommended a focus on species and methodologies that were consistent with the Benthic Survey Plan rather than require an entirely different approach to assessing our resource concerns. In our

December 4, 2020 communications, we identified specific questions that should be addressed and our recommendations were directly in line with a multitude of previous comments.

Vineyard Wind responded to our December 4, 2020 recommendations on March 5, 2021 in a letter to MassDEP. We will address their points in turn:

1. **The DMF Recommendations Should Not Reopen an Approved Benthic Habitat Monitoring Plan that was Substantially Revised in Response to Previous Comments**

We did not request "reopening" of the benthic survey plan. We recommended surveys that we thought would be relatively easy to accomplish considering the scope of the benthic survey plan. It is appropriate and acceptable to MA DMF to add these updates to the Fisheries Survey Plan. If Vineyard Wind prefers, there are other methods to conduct fisheries and shellfish surveys that are not consistent with the benthic survey plan. For example, scallops can also be monitored with a dredge survey.

2. **DMF Recommendations are Outside the Scope of Conditions #33 and #34**

Vineyard Wind correctly indicates that the conditions refer to "existing" Fisheries and Shellfish Survey Plans. We point out, however, that the Fisheries Survey Plan has not yet included MassDEP input, and the Shellfish Survey Plan has apparently not yet been developed. It is our perspective that the Commonwealth agencies are still assisting Vineyard Wind in developing their plans, and over the life of the project, any updates to those plans must be communicated with MassDEP.

3. **Condition #34 requires updates to the existing Shellfish Survey Plan in the dredge footprint of the project area before and after dredging activities are completed.**

Vineyard Wind states that there is no dredging associated with their project, hence this condition is "de facto satisfi[ed]." MA DMF has no comment on this point.

4. **The BHMP was approved by MassDEP with DMF input on September 2, 2020**

MA DMF did not provide input on the Benthic Habitat Monitoring Plan approved by MassDEP. It is our understanding that the monitoring plan approved by MassDEP is dated April 2020 and was received on July 9, 2020. On August 5, 2020, MassDEP requested additional changes to the plan to which Vineyard Wind responded on September 2, 2020 and MassDEP approved the plan the same day. Our last comments on this project to state permitting were in our comments to the FEIR in January 2019:

- The FEIR references a fisheries monitoring plan in development with SMAST and stakeholders, but does not provide any details of the draft plan for review. In order to ensure the adequacy of the proposed plan, particularly with regards to a limited window for pre-construction monitoring, DMF feels that a draft monitoring plan should have been included with the FEIR.
- The proposed benthic monitoring plan is inadequate both in terms of sample sizes and collection methods to assess any potential changes following cable installation. The plan needs to be fully revised with guidance from the agencies. More detailed comments are attached.

Plans updated since January 2019 have not fully addressed our concerns.

5. **DMF Comment – Sensitive Habitats**

Vineyard Wind provided specific information about squid, scallops, and vegetated bottom. We also noted high counts of whelk in previous surveys. We stated in our December 4 letter: "There are

organisms with limited mobility present in the project area that are more vulnerable to impact, including surf clams, squid mops, and whelk egg cases. These resources should be avoided either through time of year or spatial avoidance."

6. **DMF Comment – Recovery**

MA DMF is in agreement with Vineyard Wind's statements and is glad to see seafloor energy being addressed.

7. **DMF Comment – Cable Burial**

MA DMF is in agreement with Vineyard Wind's statements and is glad to see temperature monitoring being utilized along the length of the corridor.

8. **DMF Comment – EMF**

MA DMF requested that Vineyard Wind groundtruth the EMF model based on our understanding that a cable with the same energy and shielding characteristics has not been laid in the northeast. It is unclear in Vineyard Wind's response if the same cable in fact has a groundtruthed EMF model.

Vineyard Wind has agreed to "measure MF strength at several locations that encompass different burial depths (likely 1, 1.5 and 2 meters). The measurements will be made when the wind farm is operating as close to full capacity as possible, so that the MF is being measured when it is at its strongest. The measured MF levels will be compared to the modeled levels, including an assessment on how MF varies with differing burial depths."

This survey work should include electrical fields, as well.

9. **DMF Comment – Time of Year**

Our purpose in addressing time of year is to better understand the need for the time of year restriction imposed on the Vineyard Wind 1 project. We recommended this question be raised since working with the state to address this question might provide the proponent with additional flexibility in this project and/or future projects. Lacking an agreed-upon approach to the time of year restrictions and the data needed to address this question, we will continue to recommend a precautionary approach to all future construction and maintenance activities which could include springtime time of year of restrictions to protect winter flounder, squid, shellfish, and diadromous resources.

10. **DMF Comment – Scour Protection**

Vineyard Wind will place a sampling transect on any cable protection used. The recovery of the cable protection and comparison to natural reef communities needs to be a part of this analysis.

11. **DMF Comment – Long-Term Colonization, Species Composition, and Biomass**

Vineyard Wind states that no fill will be used, but that cable protection may be used. Our point here is that disturbance recovery may be a function of season, so that the benthic recovery analysis (including succession of cable protection) should include date.

12. **DMF Comment – Distance of Detectable Changes**

MA DMF is in agreement with Vineyard Wind's statements that this is a focus of the benthic habitat monitoring plan.

MA DMF concurs that the additions Vineyard Wind has proposed address our primary priorities for a state-water fisheries survey plan. However, ***MA DMF remains concerned that the sampling design is not sufficient for impact assessment*** or to adequately answer the questions at hand. Additional stations and sampling periods are needed. Furthermore, detail regarding specifically what data will be produced and in what format is warranted. Vineyard Wind suggested MA DMF could have data upon request, but it is the proponent's responsibility to fully address the questions being raised or work closely with us to determine how the data will be interpreted.

Sincerely,

Kathryn H. Ford, Ph.D.
Habitat Program Manager

Cc. John Logan, Dan McKiernan, DMF
Todd Callaghan, Lisa Engler, Bob Boeri, CZM
David Johnston, David Wong, Mass DEP
Rachel Pachter, Vineyard Wind

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX: (617) 626-1240

MEMORANDUM

TO: Kathleen A. Theoharides, Secretary, EEA
ATTN: Alex Strysky, MEPA Unit
FROM: Lisa Berry Engler, Director, CZM
DATE: June 17, 2021
RE: EEA-16231, Vineyard Wind 2 Connector

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Draft Environmental Impact Report (DEIR), noticed in the *Environmental Monitor* dated April 7, 2021, and offers the following comments for the development of a Final Environmental Impact Report (FEIR).

Project Description

Vineyard Wind, LLC proposes to install two three-core, high-voltage alternating current (HVAC) offshore export cables to connect a wind energy project located within federally designated Wind Energy Area lease OCS-A 0501, to the south of the previously proposed Vineyard Wind 1 project. This is Vineyard Wind's second proposed project in the 0501-lease block. The subject of this DEIR, Vineyard Wind Connector 2, is part of a larger project that seeks to permit an 800-megawatt (MW) offshore wind development under the jurisdiction of the Bureau of Ocean Energy Management (BOEM) called Park City Wind. The focus of the DEIR describes project elements within state waters, including portions of the offshore export cables, the onshore transmission and substation, and the interconnection to the electrical grid at the existing 345-kilovolt (kV) West Barnstable Substation.

The Vineyard Wind Connector 2 submarine transmission cables will be laid approximately 165 feet apart and at a minimum of 330 feet to the west of the Vineyard Wind 1 cables in the Offshore Export Cable Corridor (OECC) originally developed for the Vineyard Wind Connector 1 cables, therefore no crossing of the first project will be necessary by the second project. The OECC, including expansion areas of roughly 985 feet along its western edge and along its eastern edge in Muskeget Channel, extends through waters in the towns of Edgartown, Nantucket, Barnstable, and possibly Mashpee. With these expansions, the OECC will range from 3,100 to 5,100 feet wide in state waters. The total length of the OECC associated with Park City Wind is approximately 63 miles with approximately 23 miles of the OECC located within state waters for each cable. Vineyard Wind is seeking permission to use the full OECC envelope in order to microsite the OECC to avoid hard/complex seafloor and other protected resources. The OECC will make landfall at Craigville Beach in Barnstable and all onshore project elements will be located entirely within the Town of Barnstable.

The two offshore export cables are proposed to be buried approximately five to eight feet below the seafloor. In its Environmental Notification Form (ENF) on this project, Vineyard Wind estimated that dredged corridors through sand waves present in Nantucket Sound would be approximately 65 feet wide for each of the cables. In Table 4-1 of the DEIR, Vineyard Wind estimates that there will be 4.2 miles of sand wave dredging totaling 106,000 cubic yards (CY). The estimated volume of sand fluidized during cable laying outside of sand waves is 147,000 CY. The area disturbed by cable laying including trenching, disturbance from tool skids, sand wave dredging, and anchoring

of work vessels is estimated to be 112 acres (Table 4-1). An additional 12.7 acres of cover may be needed to ensure adequate cable burial. The linear and areal extent of hard seafloor that cannot be avoided is 4.4 miles/1.8 acres. The linear and areal extent of complex seafloor that cannot be avoided is 14.7 miles/5.9 acres.

Ocean Plan

To meet the standards of review under the Ocean Management Plan, the proponent must prove specific thresholds are met relating to avoiding and minimizing impacts to protected areas and describe public benefits afforded by the project. The characterization of the expanded OECC is depicted in select figures in Attachment A as well as the 16-page map series in Attachment C. The figures depict that for much of the OECC, the two export cables can be buried in soft sediments. However, they also indicate that roughly eight acres of hard/complex seafloor—a Special, Sensitive, or Unique resource protected by the Massachusetts ocean management plan—could be disturbed. The DEIR explains how Vineyard Wind will use all practicable measures to avoid disturbing hard/complex seafloor and that No Less Damaging Environmentally Practicable Alternative to the project exists.

The public benefits described in the DEIR include 1.59 million tons per year of carbon dioxide equivalents, 850 tons per year of NOx, and 450 tons per year of SO_2 emission that will be offset by the wind energy generated over the lifetime of the project. In addition, Vineyard Wind has committed to a $16 million host community agreement with the Town of Barnstable. Finally, under the Massachusetts Public Benefit Determination regulations at 310 CMR 13.04, water-dependent projects are presumed to provide adequate public benefits. Under the Massachusetts Waterways regulations at 310 CMR 9.12(2)(e), a wind energy facility is water-dependent "when the Secretary [of Energy and Environmental Affairs or EEA] has determined that such facility requires direct access to or location in tidal waters and cannot reasonably be located or operated away from tidal or inland waters." It is anticipated that the Vineyard Wind 2 project will be determined a water-dependent project as Vineyard Wind 1, a project similar in size and adjacent in location to the Vineyard Wind Connector 2, was determined to be water-dependent.

Seafloor Assessment

In its comments on the ENF, CZM requested that Vineyard Wind use the federally approved Coastal and Marine Ecological Classification Standard (CMECS) to describe all seafloor features assessed and mapped in the DEIR. According to the DEIR Response to Comments, "the entire OECC data set is being used to support the requested CMECS classification effort, the results of which Vineyard Wind expects to provide to BOEM in August 2021" and will be included in the FEIR. CZM looks forward to receiving these data and integrating them into its seafloor mapping program.

Species of Concern

Regarding time of year restrictions (TOY) for construction activities to protect species of concern, the DEIR reports that the optimal time for cable laying is from April to September due to the reduced wave height at this time and that Vineyard Wind has discussed this with National Marine Fisheries Service (NMFS) and Massachusetts Division of Marine Fisheries (DMF). However, the DEIR reports that "final determination of TOY restrictions for the Vineyard Wind Connector 2 is not complete." The FEIR should report on final discussions with NMFS and DMF regarding TOY restrictions and other measures to protect species of concern that may be impacted by the proposed project. Prior to the FEIR, Vineyard Wind should finalize the draft Piping Plover Protection Plan with

the Natural Heritage and Endangered Species Program (NHESP) and report on other commitments made through consultation with NMFS, DMF, and other agencies involved in protecting species of concern. Specifically, Vineyard Wind should identify opportunities to support conservation measures relating to monitoring and habitat restoration or enhancement of protected avian species in consultation with NHESP.

Coastal Resiliency

The DEIR states that although the Horizontal Directional Drilling (HDD) trajectory is still undergoing engineering, it is expected that the cables will be approximately 30 feet below ground surface where it passes below the Mean High-Water line and the cables will be located 20 feet below the ground surface when under the middle of the beach. Where the offshore cables transition to onshore cables, the buried concrete transition vault will be 100 feet landward of the most shoreward edge of the beach parking lot. With these specifications, Vineyard Wind believes that the cables will be protected from all but the most extreme hurricane-induced beach and dune erosion. The DEIR does not provide analysis of the beach and dune erosion that may occur in a major hurricane, as requested in our comments on the ENF but relies on the shoreline change history, which is not a useful data source for this purpose due to the infrequency of large storm events in this area. Cable burial is a concern especially with the predicted increase in frequency of highly erosive storm events and recent examples of cables becoming exposed (e.g., Block Island). The FEIR should include an explanation of how the proposed cable burial depth is sufficient under predicted circumstances, how cable burial will be monitored at the water/shore interface, and what measures will be taken to maintain sufficient depth of cover in the event of significant erosion.

Cable Laying

Vineyard Wind has estimated that it may need as much as 3.5 miles/12.7 acres of cover to ensure that its cables are adequately buried beneath the seafloor. As stated in our previous comments, CZM discourages the use of armoring and Vineyard Wind should, when cable protection is necessary, use a top cover that is comprised of sediments whose grain size and composition mimics that of the adjacent seafloor.

Underwater Archeological Resources

Vineyard Wind is in the initial stages of addressing cultural resources through a marine archaeological assessment under a Board of Underwater Archeological Resources (BUAR) Special Use Permit No. 17-003. The marine archaeological assessment report will be included in the revised Construction and Operations Plan submitted to BOEM later this summer. Vineyard Wind should continue working with BUAR to develop a sufficient plan for addressing cultural resources that may be impacted by the proposed project.

Monitoring Plan

The proposed Benthic Habitat Monitoring Plan (BHMP) will measure project impacts and recovery using a Before After Control Impact (BACI) gradient sampling design. Monitoring of benthic habitats is proposed in years 1, 3, and potentially 5 after construction. Vineyard Wind states that studies demonstrate that benthic assemblages in sandy habitat recover to preconstruction biomass and diversity within 100 days to four years. Vineyard Wind has committed to geophysical surveys of both export cables after construction to ensure cable location and burial depth. These surveys should include bathymetric analyses that show the change in seafloor height after construction. These reports should be shared with and discussed with state agencies so that remediation options, if necessary, can

be discussed. The FEIR should contain a detailed BHMP that describes: 1) the questions that the monitoring plan is designed to answer; 2) the specific methods used to gather the necessary data, including the number and location of sample sites, sampling frequency, and sampling seasons; and 3) the metrics and statistics that will be used to determine if there is a change between pre- and post-construction conditions. At a minimum, this monitoring plan should include changes in benthic topography as measured by bathymetry, depth and adequacy of cable burial, changes in benthic invertebrates agreed upon by EEA agencies, eelgrass density/height/coverage, and video and/or drop camera surveys. There should also be total suspended solids concentrations monitoring during construction, both within and outside of the affected construction area, and an analysis of the depth and extent of sediment drape associated with the settling of suspended sediments. The goal of the BHMP should be to discern the magnitude and duration of impacts that occur during construction and to identify impacts that are beyond the temporal and spatial scope described in the ENF and EIR. Vineyard Wind should consult with EEA agencies before the filing of the FEIR on the details of the proposed plan.

Cumulative Impacts

Regarding cumulative impacts, Vineyard Wind writes that it "does not anticipate any significant cumulative adverse impacts, nor can it identify ways in which changes in construction or location of the offshore cables could reduce the temporary impacts that will occur." Vineyard Wind includes Table 4-5 in the DEIR to summarize the cable laying related impacts of both Vineyard Wind 1 and Vineyard Wind 2. The table describes the magnitude and extent of sand wave dredging, trench impact zone, impact to seafloor due to the plow skids and vessel anchoring, and the expected area of cable protection. The impacts for the Vineyard Wind 2 project, despite having roughly the same length of cable, are significantly greater for sand wave dredging (25% greater), skid tracks (56% greater), anchoring (over five times greater), and cable protection (33% greater). Vineyard Wind states that this discrepancy is due to differences in the mapped bottom conditions between the two projects as well as revised engineering assumptions for Vineyard Wind 2. Vineyard Wind expects that the cables for the first project will be laid in late 2022 or early 2023 while the cables for the second project will be laid in 2024. Vineyard Wind is expecting "significant habitat recovery" in the one year between the two projects and purports that the cumulative impact will be restricted to the potential cable protection associated with each project. A well-designed monitoring program, as described above, will be able to identify overlapping and long-term impacts from the two projects. Lastly, Vineyard Wind recently contacted CZM to discuss its development of a Construction and Operations Plan for the remainder of the unbuilt area of lease 0501. The FEIR cumulative impacts summary (e.g., an update of Table 4-5) should estimate potential impacts associated with cables entering state waters associated with additional development in lease 0501.

Decommissioning

The DEIR describes a conceptual decommissioning process that would either leave the cables in place or remove them, noting that over the 30-year lifetime of the project advances in technology are likely to take place that might significantly change the decommissioning options. The FEIR should describe Vineyard Wind's financial commitment to decommissioning and appropriate landside disposal of all project elements as applicable.

Potential Impacts to Fisheries

In response to CZM's request to report the recent history of fishing activity (landings and value) by sector and port across the entire project footprint, including both the OECC and the Wind Development Area (WDA), Section 9.0 of the DEIR presents a brief overview of fisheries activity and describes how Vineyard Wind is working with a fisheries economist on the economic exposure of Massachusetts fishermen to the construction and operation of the OECC in Massachusetts waters. The economic exposure analysis and a framework for compensation to Massachusetts fishermen should be presented in the FEIR.

Ocean Development Mitigation Fee

Based on the anticipated hard cover of 12.7 acres and 106,000 CY of sand wave dredging, Vineyard Wind proposes an ocean development mitigation fee starting at $285,500, which is at the upper end of the Class II fee ($85,000-$300,000) set out in the Massachusetts Ocean Management Plan. This fee is proportional to and consistent with the methodology used to determine the ocean development mitigation fee for Vineyard Wind 1. Vineyard Wind proposes that the fee would increase by $10,000 for each acre of cable protection required above the 12.7 acres of cover proposed in the DEIR. Second, the fee would increase $500 for every 1,000 CY of sand wave dredging required above the 106,000 CY proposed in the DEIR.

The ocean development mitigation fee schedule provides guidance on how the fee should be determined based upon project footprint and the spatial/temporal extent of effects on marine resources and water-dependent uses. Vineyard Wind interprets project footprint as limited to hard structures, however, previous MEPA determinations have included the extent of side cast dredged sediments, the extent of anchor line sweep and scour from work vessels, and the extent of sediment drape associated with sediments suspended during a project as part of a project's environmental impact footprint. As noted in the Ocean Management Plan, for the purpose of calculating an ocean development mitigation fee, project impacts include those that are 'negligible and limited in duration' as well as those that are 're-occurring or continuous in duration' as part of a project's footprint. The guidance for assessing the ocean development mitigation fee provided in Volume 1, Chapter 3, and Appendix 6 of the 2015 Massachusetts Ocean Management Plan notes that the EEA Secretary has "broad discretion in determining the fee amount and any conditions necessary to ensure that the 'as-built' project is consistent with the project as described in the final MEPA EIR filing." Notwithstanding the difference determining a project footprint, the proposed base fee and method for adjusting the fee associated with actual impacts is largely appropriate. Vineyard Wind should consult with CZM on the final calculation of this fee prior to the FEIR.

Federal Consistency Review

The proposed project is subject to CZM federal consistency review, in which case it must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at robert.boeri@mass.gov, or visit the CZM web site at https://www.mass.gov/federal-consistency-review-program.

LBE /tc/rlb
cc:
Nina Coleman, Director of Natural Resources, Barnstable, MA
Gregg Frazier, Falmouth Harbor Master
Stephen McKenna, CZM Cape & Islands Regional Coordinator

Yarmouth Conservation Commission
Barnstable Conservation Commission
Holly Carlson Johnston, Epsilon Associates, Inc.
Rachel Pachter, Vineyard Wind
Conrad Caia, Yarmouth Shellfish Constable
Dan Horn, Barnstable Shellfish Constable
Christopher Boelke, Sue Tuxbury & Alison Verkade, NMFS
Ed Reiner, EPA
Derek Standish, David Wong, Millie Garcia-Serrano, Daniel Padien, Dave Hill, DEP
Dan McKiernan, John Logan, DMF

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June 17, 2021

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Alex Strysky, EEA No. 16231
100 Cambridge Street
Boston, Massachusetts 02114

Project Name:	*Vineyard Wind Connector 2*
Proponent:	*Vineyard Wind LLC*
Location:	*Offshore export cables (to facilitate Park City Wind (800MW), wind generation facility within Federal waters) through Massachusetts waters northerly through Nantucket Sound to Craigville Beach, Barnstable (Preferred Route). Alternate onshore routes from Craigville Beach and alternate landfall site at Covell's Beach, Barnstable.*
Project Description:	*Utility- Transmission Cables*
Document Reviewed:	*Draft Environmental Impact Report*
EEA File Number:	*16231*
NHESP Tracking No.:	*17-37398*

Dear Secretary Theoharides,

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the Division) reviewed the Draft Environmental Impact Report (DEIR) and the May 28, 2021 Supplement to the DEIR (Supplement) for the proposed Vineyard Wind Connector 2 (VWC2) and would like to offer the following comments.

As identified during the Division's review of the ENF for VWC2, the proposed offshore cable components and onshore landing at Craigville Beach, Barnstable are located within *Priority Habitat* and *Estimated Habitat* as indicated in the *Massachusetts Natural Heritage Atlas* (14th Edition). The VWC2 project will occur within habitat of the following state-listed species:

Scientific Name	Common Name	Taxonomic Group	State Status
Sterna dougallii	Roseate Tern	Bird	Endangered*
Sterna hirundo	Common Tern	Bird	Special Concern
Sternula antillarum	Least Tern	Bird	Special Concern
Charadrius melodus	Piping Plover	Bird	Threatened*

*Species also protected pursuant to the U.S. Endangered Species Act (ESA, 50 CFR 17.11).

These species and their habitats are protected pursuant to the Massachusetts Endangered Species Act (M.G.L c. 131A) and its implementing regulations (MESA, 321 CMR 10.00) as well as the Massachusetts Wetlands Protection Act and its implementing regulations (WPA, 310 CMR 10.37, 10.58(4)(b) and 10.59). Therefore, this Project will require a direct filing with the Division for compliance with the MESA and the rare species provisions of the WPA.

Massachusetts is a globally significant nesting, feeding, staging and overwintering area for numerous migratory birds, from common waterfowl to ESA-and MESA-listed bird species. A large proportion of the North American Roseate Tern (ESA- & MESA-Endangered) population, Atlantic Coast Piping Plover population (ESA- & MESA-Threatened), and Atlantic Coast Common Tern population (MESA-Special Concern) are reliant upon Massachusetts for reproduction. As such, Massachusetts's responsibility for state and federally listed coastal waterbirds is disproportionately high. To that end, the Division has expended considerable funds and resources to protect and manage these birds, as well as restore nesting habitat.

The Division recognizes that wind turbine generators (WTGs) associated this Vineyard Wind 2 (Park City Wind) project will occur within federal waters and will continue to provide comments through the Bureau of Ocean Energy Management's (BOEM) National Environmental Policy Act (NEPA) process, when available. Importantly, the federal National Environmental Policy (NEPA) review of the Vineyard Wind 1 (800MW) Offshore Wind Project identified that the operation of WTGs is expected to result in direct mortality (i.e. Take) of Common Tern, a MESA-listed avian species (see BOEM's SDEIS & FEIS). Thus, cumulative impacts to MESA-listed species associated with this Park City Wind project can be reasonably expected.

Given Massachusetts' critical ecological role for these ESA- & MESA-listed avian species and the Division's responsibility of managing, protecting, and restoring their habitats, the offshore components including WTGs associated with VWC2 are relevant to state-managed and protected resources.

DEIR

The Division conducted a review of the DEIR and Supplement with respect to the Secretary's Certificate on the ENF for VWC2. Based upon the information provided, it is the opinion of the Division that the DEIR and Supplement do not sufficiently address the August 7, 2020 Certificate's Scope relative to Rare Species (pg. 15-16). Specifically, it is the Division's opinion that the DEIR and Supplement do not a) provide sufficient background and contextual information from the federal review process that would inform this state review relative to state-listed species, b) detail a mitigation plan for avian species, c) provide a comprehensive post-construction monitoring and adaptive management plan for avian species, d) discuss or identify whether conservation measures detailed by the Division would be considered through the federal review process, and e) provide migratory survey data or identify the status of this data set (e.g. preliminary, completed, available, etc.).

Conclusion

As stated in the Division's comments on the ENF, the Proponent should consult with the Division to develop and integrate suitable conservation measures to mitigate unavoidable project impacts to affected imperiled avian species associated with Vineyard Wind 1, and now also Park City Wind. Conservation measures may include, but are not limited to, support for ongoing tern colony and plover monitoring and management and the restoration and enhancement of critical nesting habitats. These

actions would provide meaningful and measurable benefits to state-protected terns and other avian species. Therefore, the Division recommends that the Proponent consult with our office to identify conservation measures such as habitat restoration, enhancement, and support for state-protected species monitoring for inclusion in the FEIR.

Given the Division's responsibility to protect and manage imperiled avian resources, every effort should be made to avoid and minimize risks, as well as monitor and mitigate unavoidable Project impacts to the Commonwealth's wildlife resources. Through such efforts, we can ensure that the Vineyard Wind projects not only contribute to meeting critical renewable energy needs, but also help to ensure healthy populations of coastal waterbirds, including vulnerable MESA and ESA-listed species, for the benefit of our citizens.

The Division will not render a final decision until the MEPA review process and associated public and agency comment period is completed, and until all required MESA filing materials are submitted by the Proponent to the Division. As our MESA review is not complete, no alteration to the soil, surface, or vegetation and no work associated with the proposed project shall occur until the Division has made a final determination.

If you have any questions about this letter, please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364 or Amy.Hoenig@mass.gov. We appreciate the opportunity to comment on this project.

Sincerely,

Everose Schlüter, Ph.D.
Assistant Director

cc: Vineyard Wind LLC
Holly Carlson Johnston, Epsilon Associates, Inc.
DEP Southeast Regional Office, MEPA
Lisa Engler, CZM
Bob Boeri, CZM

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

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Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

June 18, 2021

Kathleen A. Theoharides
Secretary of Environment and Energy
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
ATTN: MEPA Office
Boston, MA 02114

RE: DEIR Review. EOEEA 16231 BARNSTABLE. Vineyard Wind Connector 2 originating from offshore export cables from Federal/Massachusetts offshore boundary, northerly to Craigville Public Beach in Barnstable (Preferred Route), and onshore underground cables to a new substation in Barnstable and ultimately to an interconnection at Eversource's existing 35-kV West Barnstable Substation

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Draft Environmental Impact Report (DEIR) for the Vineyard Wind Connector 2, originating from offshore export cables from Federal/Massachusetts offshore boundary, northerly to Craigville Public Beach in Barnstable (Preferred Route), and onshore underground cables to a new substation in Barnstable and ultimately to an interconnection at Eversource's existing 35-kV West Barnstable Substation, Barnstable, Massachusetts (EOEEA #16231). The Project Proponent provides the following information for the Project:

The Vineyard Wind Connector 2 includes two three-core offshore export cables connecting the offshore electrical service platform (ESP) located in the SWDA to the landfall site onshore. The two offshore export cables will transition to six single-core onshore export cables in transition vaults/joint bays at the landfall site, then continue underground within a buried concrete duct bank. The route for this duct bank will predominantly follow existing public roadway layouts to a proposed onshore substation. The substation will step up voltage to enable the interconnection with the electrical grid at the existing Eversource 345-kilovolt (kV) West Barnstable Substation.

Offshore elements of Vineyard Wind Connector 2 will largely utilize the OECC developed for the Vineyard Wind Connector 1, which will transit through state and federal waters. Within Massachusetts waters, the OECC will pass offshore through the towns of Edgartown, Nantucket, Barnstable, and possibly a corner of Mashpee before making landfall in Barnstable (see Figure 1-4 in Attachment B). The total length of the OECC from Park City Wind in the SWDA to the landfall site is approximately 63 miles (101 kilometers [km]), with

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

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approximately 23 miles (37 km) of the OECC located within state waters. Onshore Project *elements* will be located entirely within the Town of Barnstable.

Bureau of Water Resources Comments

Wetlands. The Wetlands Program has reviewed the DEIR and finds that the Project Proponent has adequately addressed the Program's comments and concerns related to the Environmental Notification Form (ENF) review.

Waterways. The SERO Waterways Program has reviewed the DEIR and determined that the Proponent had adequately addressed Chapter 91 comments raised in the ENF review.

Waterways Program/Boston

Dredging

Pursuant to 314 CMR 9.07(2)(b)(5), for Projects involving the dredging of greater than 10,000 cubic yards of sediment, the Proponent has originally developed a Project-specific sampling and analysis plan on July 28, 2020 and the revised plan was approved by MassDEP on August 14, 2020. Detailed results from the sampling and analysis plan (SAP) must be developed and included in the 401 Water Quality Certification (WQC) application for MassDEP to review.

Horizontal Directional Drilling (HDD)

The Project plans to install two 660-foot-long conduits via horizontal directional drilling (HDD) to bring the two offshore export cables onshore at the Centerville River Crossing to avoid hard bottom and co-located eelgrass. The use of HDD to transition the submarine cables from offshore to onshore can minimize impacts to marine habitats and natural resources within intertidal areas. Best Management Practices (BMPs) shall be deployed surrounding the dredge area to minimize turbidity from dredging the small area of seafloor beneath the seaward end for the HDD conduit to bury the cable into the seafloor. Prior to HDD work, representative sediment samples from this area shall be collected and analyzed pursuant to a Sampling Analysis Plan developed, submitted to, and approved by MassDEP. Sedimentation barriers or silt curtains shall define the limit of work if grain size analysis reveals that the area is dominated by silt or clay which may result in increased turbidity when disturbed. If a microtunnel method or HDD to install the duct bank under the Centerville River is planned, it may be subject to 314 CMR9.00 that requires the Proponent to submit a detailed plan to MassDEP for a determination if a specific Sampling and Analysis Plan (SAP) is required.

The newly created habitats resulting from the installation of two conduits via horizontal directional drilling to two offshore export cables onshore at the Centerville River Crossing, such as the exposure of armoring material, may facilitate the establishment and spread of invasive species. Therefore, a systematic monitoring plan as part of long-term resource monitoring for potential marine invasive species colonization should be developed prior to commencement of the Project.

Bureau of Waste Site Cleanup Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

This Project involves installation of a transmission line from Craigsville Beach (Barnstable) to a substation in West Barnstable. The proposed transmission line will be approximately five-miles

long using buried concrete duct banks in existing roadways. There is one open MCP site located along the proposed route. Release Tracking Number 4-0020277 is associated with a residential release at 1071 Shootflying Hill Road, Barnstable. Further response actions are necessary at the site for closure under the MCP. This release is not likely to impact the proposed project.

There are no other listed MCP disposal sites located at or in the vicinity of the Project that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification to MassDEP may be required pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000). If OHM is encountered during the construction of this Project, addressing OHM encountered could likely be accomplished using the Utility-related Abatement Measures provisions at 310 CMR 40.0461 through 40.0469. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions and/or conduct response actions. The BWSC may be contacted for guidance if questions arise regarding cleanup.

Bureau of Air and Waste (BAW) Comments

Air Quality

The Air Permit Section has reviewed the DEIR and offers the following comments:

1. Should the Proponent install any emergency generators, the engines would be subject to MassDEP's Industry Performance Standards for Engines and combustion turbines at 310 CMR 7.26(42). In accordance with 310 CMR 7.42(e)1, the Proponent must certify compliance with the requirements of 310 CMR 7.26(42) in its entirety in accordance with the provisions of 310 CMR 70.00: *Environmental Results Program Certification*.

2. The Operational Noise Analysis of the DEIR states (p. 7-2) "A potential late-night increase of 13 dBA was modeled at the Cape Cod Chamber of Commerce welcome center/office facility across Shootflying Hill Road northeast of the substation site." A 13 dBA increase over background exceeds the 10 dBA maximum impact threshold of MassDEP's Noise Policy. MassDEP notes that additional noise mitigation may be necessary at this location.

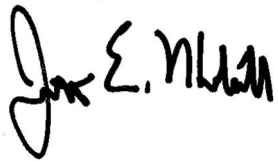
Solid Waste Management. Based on its review of the DEIR Solid Waste Management Program has determined that the Proponent has adequately addressed its comments previously provided in the ENF.

Spills Prevention. As documented in section 10.9.4 of the DEIR, the Proponent has adequately addressed spills prevention through its detailed Spill Prevention Control and Countermeasure (SPCC) Plan.

Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this DEIR. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,



Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
Gerard Martin, Acting Deputy Regional Director, BWR
John Handrahan, Acting Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, BAS
Daniel Gilmore, Chief, Wetlands and Waterways, BWR
David Hill, Wetlands and Waterways, BWR
David Wong, Wetlands and Waterways, BWR/Boston
Mark Dakers, Chief, Solid Waste Management, BAW
Elza Bystrom, Solid Waste Management, BAW
Daniel DiSalvio, Chief, Compliance and Enforcement, BAW
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The Town of Barnstable

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Mark S. Ells, Town Manager
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June 21, 2021

Secretary, Kathleen A. Theoharides
Attn: MEPA Office, Alex Strysky
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

VIA ELECTRONIC & U.S. MAIL: alexander.strysky@state.ma.us

RE: Vineyard Wind Draft Environmental Impact Report, EEA#16231
Project Name: Vineyard Wind Connector 2

Dear Mr. Strysky,

The Town of Barnstable continues to support the Vineyard Wind Project and particularly the proposed Phase II landing at Craigville Beach and extending northward through the Villages of Centerville, and West Barnstable, terminating in the vicinity of Oak Street and connecting to the grid via the Eversource substation at Oak Street. Vineyard Wind ("VW") has proven to be an exceptional partner working with Town officials post-approval of Phase I of the project to coordinate colocation and installation of VW duct banks and parallel Town sewer lines to minimize impact on residents and on VW's new installations and saving the Town several million dollars in construction costs in the process. The Town fully expects to continue this joint effort as VW's Phase II is designed and implemented.

There are a number of issues that MEPA and state agencies should be aware of in order to assure that the permitting continues to enable maximum cooperation and flexibility on the ground. Doing so will enable thoughtful design and construction parameters for this next stage of the VW project that will serve the public and private interests of this important project.

I. Hazardous Fluid Containment

As discussed in the Town's MEPA comments of January 29, 2018, copy attached, all hazardous fluids proposed to be utilized at any stage of the Phase II project should be identified by VW. These would include, but not be limited to, dielectric cooling fluids in transformers and any other components of the project, as well as hydraulic fluids, diesel fuel, and gasoline. Containment

sumps should accommodate at last 110% of each vessel's maximum liquid volume, plus sufficient excess capacity to accommodate at a minimum the precipitation of a 24-hour deluge from a 100-year storm event. Agencies should insure that the final design selected represents the most current estimates of precipitation levels and the best design practices to ensure automatic sealing of drains upon initiation of a release, as well as robust alarming and notification to multiple locations locally.

Because the Eversource substation at Oak Street will need to be expanded, disclosure of hazardous fluids on site should be required. All equipment at the substation, whether new or existing, should be fitted out with capture systems that meet the above standards. Costs for design and installation should be ordered accordingly.
As discussed in the 2018 MEPA letter, the risks to the Town's sole source aquifer posed by such hazardous fluids are extreme and every cognizant agency's orders should reflect this degree of necessary risk.

II. Notice to Water Districts

The proposed location of VW's Phase II cable bank and especially the VW and Eversource sub-stations will potentially impact the interests of the Centerville-Osterville-Marstons Mills Water District (COMM"). Any release of hazardous fluids could also quickly impact the public water supplies of the Barnstable Fire District. Each of these Districts are independent municipal corporations and must receive formal notice of these proceedings and have the opportunity to provide comments to MEPA and to participate actively in front of whatever additional agencies will be involved in permitting VW's Phase II project.

III. Single Cable Permitting and Corporate Control

VW proposes a single cable landing at Craigville Beach to accommodate transmission of 800 MW of electricity production from its second offshore site. Understandably, VW proposed on-shore duct bank capacity for a second offshore facility landing at Craigville Beach. Building this expanded capacity into the duct banks from the start makes sense both economically and from the viewpoint of avoiding very disruptive community impact in a future landing.

That said, notwithstanding the excess capacity which Barnstable supports, the Town expressly reserves its approval at this time to the landing of a single cable only. The Town respectfully reserves to another day the opportunity to negotiate rights to approve and a future Host Agreement for any additional cables that might utilize this excess capacity which, after all, is a public asset.

IV. Continuing Cooperation

The parties fully expect to continue their productive discussions in guiding Phase I to a successful deployment. They are currently engaged in initial discussions to produce a second Host Community Agreement regarding Phase II. The Town will keep the MEPA Office and all

involved state agencies aware of the progress of the HCA negotiations for Phase II. When successfully completed as expected, a copy of the HCA Phase II Agreement will be provided to

MEPA and relevant agencies. It is respectfully urged that MEPA and the Secretary direct all agencies to tailor their permits to the maximum extent possible to the content and intent of the Phase II HCA.

In conclusion, the Town fully supports Vineyard Wind's vital efforts in principle, while remaining committed to protecting the many public interests and assets implicated is the deployment of this project.

We remain available at any time to respond to your comments and inquiries.

Respectfully,

Mark S. Ells
Town Manager

cc: Adam Kahn, Esquire
Foley Hoag LLP

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January 29, 2018

Massachusetts Environmental Policy Act (MEPA) Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attn. Ms. Purvi P. Patel, EIT

Re: ENF MEPA Response for Vineyard Wind Project

Dear Ms. Patel,

On behalf of the Town of Barnstable, I offer the following comments on the Vineyard Wind project for your consideration.

Executive Summary

The Town of Barnstable applauds the process that has designated the area south of Martha's Vineyard for wind-powered generation of electricity. However, the Vineyard Wind proposal to bring its distribution cables through federal waters of and across Horseshoe Shoals in Nantucket Sound raises the distinct risk of re-invigorating the ill-conceived Cape Wind project, or similar. If Vineyard Wind's cables are permitted, a Cape Wind look-alike would simply have to offer Vineyard Wind sufficient compensation to connect into Vineyard Wind's cable system and there would be little that the Commonwealth or the Town could do to stop a Cape

Wind redux. Sixteen years of responsible and ultimately successful opposition to a dangerous project could be erased with the writing of a check.

Barnstable is also extremely concerned that locating Vineyard Wind's transformers in a new substation that would sit atop Barnstable's exceptionally fragile and already compromised public water supply poses an environmental risk that must be evaluated with the utmost scrutiny. A release of potentially thousands of gallons of highly poisonous dielectric fluids from the Vineyard Wind substation would be catastrophic for the economic and medical center of Barnstable County as well as its Environmental Justice population that is the most economically challenged population in the County.

There are an enormous number of details that must be scoped, detailed, tested, and publicly vetted before this project could, or should be allowed to proceed.

I. Environmental Justice Populations Will Be Affected

As an opening matter, the full scope of this project must be evaluated to determine what Environmental Justice ("EJ") populations will be affected by it. MASSGIS maps confirm that both the proposed Vineyard Wind transformer substation and the nearby Eversource substation to which Vineyard Wind will connect are in mapped EJ sites within the Village of Hyannis. Indeed, the Eversource substation abuts and is within a few hundred feet of a G.L. c. 40B affordable housing development which is one of the largest of its kind on Cape Cod. It is apparent that several EJ communities are entitled to special notice and an opportunity to be heard on the merits of the Vineyard Wind project.

It is also apparent that, as discussed in more detail below, Vineyard Wind's substation and probably Eversource's as well will have equipment filled with perhaps tens of thousands of gallons of dielectric cooling fluids. These fluids, if released to the atmosphere, will percolate quickly through the area's sandy soil and could readily be sucked into the Hyannis public well system in as few as 7 to 9 days from the release. These fluids are generically identified in the Massachusetts Contingency Plan with a maximum allowable concentration in public water

supplies at a ratio measurement such that one gallon of dielectric fluid would render undrinkable 5,000,000 gallons of public water supply.

Obviously, a product of this toxicity level is fairly classified upon release as a "hazardous waste". In turn, that classification requires that, pursuant to section 15 of the Commonwealth's Environmental Justice Policy, the Vineyard Wind project is and must be subject to "Enhanced Analysis of Impacts and Mitigation under MEPA". Thus, "[a]nalysis of technological, site planning, and operational alternatives to reduce impacts … and proposed on-site and off-site mitigation measures to reduce multiple impacts and increase environmental benefits for the affected EJ Population" will be required as part of the MEPA process.

II. The Vineyard Wind ("VW") Project Could Resuscitate the Cape Wind Project

A. The Risk

Vineyard Wind's first choice is to bring its cable through Muskeget Channel on the east side of Martha's Vineyard, then north-northeast to a point immediately west of Great Island, West Yarmouth, through Lewis Bay to a landfall at New Hampshire Avenue, West Yarmouth. This route will necessarily traverse the federal waters in the middle of Nantucket Sound (wholly surrounded by state waters). This unique area of federal jurisdiction is referred to as the so-called "federal donut" in Nantucket Sound.

In its presentations to the Towns of Yarmouth and Barnstable, VW representatives originally took the position that they would contract with all interested parties to assure that its electric cable would not be made available to any other entity, specifically mentioning Cape Wind. Nonetheless, after Cape Wind's December 2017 announcement that it was abandoning its project, VW revised its public statement to indicate that legal counsel had informed them that the Federal Energy Regulatory Commission ("FERC") had or might have authority to overrule any state order or private agreement to exclude Cape Wind or a successor from connecting to the VW cable.

Obviously, then, any entity that might follow Cape Wind could wait until VW's cable route is approved. The successor could then offer VW exceptional compensation for the opportunity to connect to VW's cable and FERC could (if the legal opinions are accurate) order such a connection to be allowed. The State and local municipalities would be relatively powerless to prevent such an outcome. More than sixteen years of responsible and successful opposition to a project whose litany of environmental risks need not be discussed in detail here could be wiped out without warning.

B. Potential Mitigation

To mitigate this risk, the Commonwealth's cognizant agencies should be directed to require that VW's western route should be utilized as the sole pathway to landfall in Barnstable County. Vineyard Wind already shows this route to be a viable alternative for either Phase 1 or Phase 2 of the offshore development. That said, the western route should be moved slightly to the west and out of federal waters so that the cable would remain wholly within the waters of the Commonwealth. Thereafter, any approval of the project could be conditioned upon an administrative order and public/private contracts that would forbid VW from making its cable available to any other entity.

Such an order and such contracts would only be effective if indeed FERC could not override either. Therefore, such an order should be conditioned upon the Secretary soliciting and receiving a formal opinion from the Attorney General that FERC could not compel such an adverse outcome. Failure to receive such an opinion should be cause for the MEPA order to direct that the VW cable be excluded from Nantucket Sound.

Additionally, the Energy Facilities Siting Board ("EFSB") should be ordered to impose such conditions on the VW project if, under any circumstances, it otherwise is inclined to approve the project.

III. The Secretary Should Reaffirm the Commonwealth's Anti-segmentation Policy for Projects and Require All Agencies to Consider the Effects of the Entire Project on the Commonwealth's Interests, Even if Components Are Extra-jurisdictional

The Supreme Judicial Court's affirmation of the EFSB's approval of Cape Wind's Composite Permit in Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Board, 457 Mass. 663 (2010) radically undercut the authority of the Commonwealth to protect itself from unwise or risky extra-jurisdictional projects on our borders. The Vineyard Wind case presents a unique opportunity for this Administration to reassert the Commonwealth's primary interests as a matter of sound public policy.

The EFSB had ruled that it could not consider any aspects of the Cape Wind project that lay outside of the Commonwealth's boundaries. From a public policy viewpoint, the EFSB/SJC rulings are highly unfortunate and, as noted by Chief Justice Margaret Marshall in her vigorous dissent in Alliance, supra, (Exhibit 1 , attached), the legal and practical consequences of curtailing the Commonwealth's pubic trust interests embodied in G.L. c. 91 could be severe.

As a matter of fundamental and long-standing public policy going back to the Colonial Ordinances, the Secretary should direct all agencies to examine the Vineyard Wind project in its entirety, to consider the entire project's impacts on the interests of the Commonwealth, and to reaffirm the Commonwealth's long-standing anti-segmentation policy associated with environmental reviews contained in 301 C.M.R. 11.01 (2)(c).

IV. Because of the Massive Environmental Damage that Any Release of Dielectric Fluids Would Cause to Barnstable's Public Water Supply, an Exhaustive Review of Such Risks Must Be Conducted. If the Project Survives that Scrutiny, Extensive Mitigation Must be Ordered.

A. The Risk

In August 2014, Cape Wind joined with NSTAR in a petition (EFSB 02-2B; 07-8A) to expand an NSTAR substation in Independence Park, Hyannis in order to accommodate shunt reactors needed for the Cape Wind project's grid interconnection point. The town engaged its water supply consultant, Environmental Partners of Quincy, to consider the project risks. Environmental

Partners issued a preliminary assessment on September 5, 2014. A copy is attached as Ex.2.

Discovery in that case indicated that two types of dielectric fluids would be used in both Cape Wind and NSTAR equipment. Copies of the MSDS sheets for both Edisol (Ex. 3) and Fradol (Ex. 4) are attached. Environmental Partners opined that these fluids were generically contained in the Massachusetts Contingency Plan with an allowed concentration in public drinking water supplies not to exceed 1:5,000,000. At least 11,300 gallons of dielectric fluid would have been deployed on the Cape Wind site[1] and an unknown quantity would have been added to the NSTAR site, both of which are directly up-stream from Barnstable's public water supply wells.

Environmental Partners' witness testified that neither Cape Wind nor NSTAR had identified viscosity and solubility of these products nor had they examined the soil conditions at the substation to accurately predict rate of infiltration after a release. Nonetheless, Environmental Partners' witness testified that, depending on multiple variables, the fluids could enter the sole source aquifer in as little as two days and be drawn into the wellheads in as little as seven days, rendering the water nonpotable. Regrettably, the hearing officer ignored this testimony and approved the substation expansion. An appeal to the SJC followed and was eventually dismissed without prejudice as moot when Cape Wind's permits were rescinded by the EFSB.

The NSTAR substation and Vineyard Wind's substation are less than one-quarter mile from one another and therefore the same or similar soil conditions, groundwater flow, and public well proximity exist. The risks and unanswered questions identified in the Cape Wind substation expansion case are the same as those presented by the Vineyard Wind project.

The scoping issue that is paramount is to determine the risks of release, including the worst case scenario, a catastrophic transformer explosion. There are additional sources of potential release that were identified in the Cape Wind case that also need to be explored. Ground water location and flow must be extensively

[1] The Environmental Partners letter suggested an initial estimate of 1,000,000 gallons of cooling fluids would be present in the Cape Wind substation based on online data from the proposed equipment manufacturer. A different design lowered that amount to about 11,300 gallons.

studied. Permeability of the soil conditions must be understood. Chemical content, viscosity, and solubility of the chosen dielectric fluids must be disclosed, examined, and tested in real-world conditions. And the ability or inability to extract the dielectric fluid's chemicals from the groundwater, should the worst event occur, must be fully understood.

B. Potential Mitigation

If the project is approved, mitigation must be ordered. At a minimum, the risk is so severe that Vineyard Wind must, as a condition of approval, be required to pay for the relocation of Barnstable's wells to a site or sites that are upstream from the Vineyard Wind and Eversource substations.

Secondly, since relocating the wells could take five or more years, adequate containment at both the Vineyard Wind and Eversource substations must be ordered in the interim. A strong precedent for such an order of containment exists. In a recent 2014 D.P.U. case (D.P.U. 13-64) in which Barnstable was a party, NSTAR proposed to expand a substation about one-half mile from the Vineyard Wind and Eversource properties under examination here. The site consisted of two existing 10,000-gallon transformers and the proposal to add a third transformer of equal size.

To its credit, NSTAR agreed to retrofit the existing transformers and fit out the new transformer with containment capable of holding the full volume of all hazardous products on site, plus an amount equal to a 24-hour rainstorm from a 100-year storm, plus 10%. Other requirements were imposed as well for this project which is in the immediate vicinity of the Vineyard Wind project. That same mitigation, if it is state-of-the-art, should be considered by all relevant state agencies in this matter.

Should Vineyard Wind oppose such a solution on the grounds that the chance of a catastrophic release is small, such an argument should be summarily rejected for two reasons. First, the amount of fluid needed to qualify as a "catastrophic" release is miniscule, given dielectric fluid's toxicity. Secondly, the case of Allen v. Boston Redevelopment Authority, 450 Mass. 242 (2007), attached as Exhibit 5, holds that, even if the chance of a release is small, if the damage that could result is

catastrophic, then emergency response planning and mitigation must be commensurate with the degree of harm that would follow a release.

Barnstable's water supply services Hyannis, the economic center of Cape Cod. The Cape's medical hub, including Cape Cod Hospital, would be severely affected if contaminated water supplies forced the Hyannis wells were to be shut down. And Hyannis' thousands of residents, including EJ populations, would also be severely impacted by such a release. All alternatives to the proposed substation site should be explored but if Hyannis is approved, mitigation must follow.

Additional mitigation should include an immediate payment $250,000 to the Town of Barnstable to be applied to the costs of expert and peer review engineers to examine the proposal and any mitigation alternatives. In an era of very tight municipal budgets, the public fisc should not be burdened with the cost of critical expert analysis and peer review of a wholly-private and highly technical venture. Obviously, any unexpended funds would be returned to the developer.

I thank you for your thoughtful review of these vital concerns.

Respectfully,

Charles S. McLaughlin, Jr.