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# VINEYARD WIND

## Draft Construction and Operations Plan

### Volume III Text

## Vineyard Wind Project

October 22, 2018

**Submitted by**

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700 Pleasant Street, Suite 510  
New Bedford, Massachusetts 02740**

**Submitted to**

**Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, Virginia 20166**

**Prepared by**

**Epsilon Associates, Inc.  
3 Mill & Main Place, Suite 250  
Maynard, Massachusetts 01754**

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*In Association with:*

Biodiversity Research Institute  
C2Wind  
Capitol Air Space Group  
Clarendon Hill Consulting  
Ecology and Environment  
Foley Hoag  
Geo SubSea LLC  
Gray & Pape

JASCO Applied Sciences  
Morgan, Lewis & Bockius LLP  
Public Archaeology Laboratory, Inc.  
RPS  
Saratoga Associates  
Swanson Environmental Associates  
Wood Thilsted Partners Ltd  
WSP

October 22, 2018

## Section 8.0

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### Low Probability Events

## 8.0 LOW PROBABILITY EVENTS

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The following sections discuss low probability events that could occur during construction, operations, and/or decommissioning of the Project. Such events generally include collisions between vessels or between vessels and marine life, allisions between vessels and Wind Turbine Generators (“WTGs”) or Electrical Service Platform (“ESPs”), spills resulting from refueling, maintenance, or catastrophic events, severe weather and natural events, and other accidental releases.

### 8.1 Collisions and Allisions

Collisions generally include vessels colliding with other vessels or colliding with marine life. Allisions generally would involve vessels and WTGs or ESPs. All such events could result in spills as described below, or in the case of a collision with marine life, injury or fatalities. In general, the risk of vessel collisions is low due to various mitigating factors, including US Coast Guard (“USCG”) required lighting on vessels, the fact that higher vessel traffic areas were excluded from the Wind Energy Area (“WEA”) (BOEM, 2014), and as safe and practicable, the National Oceanic and Atmospheric Administration’s vessel strike guidance will also be implemented. The risk of allisions with WTGs or other facility components is low due to mitigating factors, including the distance of the Wind Development Area (“WDA”) from typical vessel routes, the spacing between WTGs and other facility components (see Figure 3.1-2), and the lighting and marking plan that will be in place. Furthermore, the specific location of project components will be provided to USCG and National Oceanographic and Atmospheric Administration for inclusion in nautical charts. As such, impacts from collisions and allisions are unlikely.

### 8.2 Spills

For the purposes of this discussion, spills include those inadvertent releases resulting from refueling of vessels during construction or operations, spills potentially resulting from routine maintenance activities required for operations of the Project, inadvertent releases due to equipment malfunction or breakage, and more significant spills that could result from a catastrophic event occurring at or in proximity to the Project. Vessel fuel spills are not expected, and if one occurred, it is likely to be small. According to the USCG, between 2000 and 2011, the average oil spill size for vessels other than tank ships and tank barges in all US waters was 466 liters (123 gallons) (USCG, 2012). Because a diesel fuel or similar fuel spill of this size is expected to dissipate rapidly and evaporate within days, impacts to any affected resources would be short-term and localized to the vicinity of the spill. The potential for spills will be further minimized as a result of the fact that vessels will be expected to comply with USCG regulations at 33 C.F.R. § 151 relating to the prevention and control of oil spills. Additionally, the Oil Spill Response Plan (“OSRP Plan”), included in Appendix 1-A, will provide for rapid spill response, clean-up, and other measures that should also help to minimize any potential impact to affected resources as it relates to spills and accidental releases that might occur, including spills resulting from catastrophic events.

### 8.3 Severe Weather and Natural Events

As described in the Revised Environmental Assessment for the Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore Massachusetts severe weather events have the potential to cause structural damage and injury to personnel (BOEM, 2014). Although major storms, winter nor'easters, and, to a lesser extent, hurricanes pass through the WDA regularly, the Project components are designed to withstand severe weather events. In the event of a spill as a result of a catastrophic event due to severe weather, the OSRP Plan will provide for rapid spill response, clean-up, and other measures that should help to minimize the potential for harm to potentially affected resources.

Natural disasters, such as earthquakes, could potentially impact the buried concrete duct bank system onshore. Regardless of the cause, any damage to or breakage of the duct bank system would require excavation to uncover and repair the damaged section. Such work could impact wildlife habitat in the same way as the construction and installation activities discussed above in Section 6.1.2.1. Furthermore, while catastrophic damage to the transition vault or buried duct bank system is extremely unlikely, it could possibly occur as a result of a natural disaster such as a major hurricane or other coastal storm that results in severe flooding and coastal erosion. Repairs to extensive damage to the transition vault or adjacent duct bank could require a larger workspace that might disturb coastal habitats adjacent to the damaged infrastructure. Any required repair work that results in additional impact to coastal habitat will incorporate mitigation for construction and installation as described in Section 6.4.2.1. Should any emergency repairs be required to any onshore facilities within Priority Habitat of the Piping Plover, between early April and mid- to late August, the National Heritage and Endangered Species Program will be notified prior to initiation of the repair work.

### 8.4 Other Accidental Releases

Impacts to terrestrial and coastal fauna and other coastal habitats and resources could potentially result from the unlikely event of an accidental release of fuel lubricating, or hydraulic oils from construction equipment operating in or adjacent to the Landfall Site. Refueling and lubrication of stationary equipment will be conducted in a manner that protects coastal habitats from accidental spills. A Construction Spill Prevention Control and Countermeasures Plan will be prepared in accordance with all applicable federal, state, and local requirements. This Plan will identify all measures that will be implemented to prevent spills and the best management practices that that will be in place to contain spills that may occur.

Impacts to terrestrial and coastal fauna and other coastal habitats also could occur during horizontal directional drilling ("HDD") efforts. As is standard practice, the HDD operations will use bentonite or other naturally occurring non-hazardous drilling mud to while drilling

to develop a “tunnel” beneath the coastal habitats that are seaward of the HDD entry point. HDD crews are trained to closely monitor the position of the drill head and pressures and reduce the risk of inadvertent releases of pressurized drilling mud to the surface. In the event of an inadvertent release, visual monitoring of the drill alignment over the land portion can be used to immediately depressurize the drill operation and minimize the amount of drilling mud released within coastal habitats. While it is not anticipated, in the unlikely event of an inadvertent release there could be some small impact. However, because drilling mud is natural and inert, and the amount of fluid is typically low, the released material is easily managed and could be removed from the site without harm to the environment.

Impacts to terrestrial and coastal fauna and other coastal habitats and resources could occur as a result of unexpected events occurring on the buried concrete duct bank system. However, damage to the buried concrete duct bank system is a low probability event as these systems are very robust. Once installed, they generally require no maintenance for the life of the project they serve. There is a remote chance the duct bank could be damaged at some point by an unrelated construction project. However, as the duct bank will be encased in concrete and buried at sufficient depth to avoid other utilities, this scenario is extremely unlikely.