



# United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT  
WASHINGTON, DC 20240-0001

Mr. Mark D. Mitchell  
Vice President Generation Construction  
Virginia Electric and Power Company  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

JUN 20 2019

Dear Mr. Mitchell:

This letter serves to inform you that the Bureau of Ocean Energy Management (BOEM) approves the Research Activities Plan Revisions (RAPR) submitted by Dominion on October 1, 2018, on Research Lease OCS-A 0497, which modify the Research Activities Plan (RAP) that BOEM approved on March 23, 2016. BOEM approval is subject to the enclosed conditions pursuant to 30 C.F.R. § 585.628(f)(1). These conditions supersede the March 23, 2016, Conditions of RAP Approval. BOEM will resolve any conflicts between the terms of the RAP and RAPR in favor of the RAPR.

In order to maintain compliance with the RAP, as modified by the approved RAPR, you must continue to submit annual reports certifying compliance with the enclosed conditions of approval, pursuant to 30 C.F.R. § 585.633(b). These reports are due annually starting on December 31, 2019.

Along with the RAPR, DMME submitted an updated Certified Verification Agent (CVA) Statement of Work (SOW) for DNV GL to review and certify the Facility Design Report and Fabrication and Installation Report, as required by 30 C.F.R. §§ 585.701 and 702. BOEM has reviewed the CVA SOW and hereby approves DNV GL as DMME's CVA as part of the RAPR approval pursuant to 30 C.F.R. § 585.706(e).

This letter constitutes a final BOEM decision that may be appealed pursuant to 30 C.F.R. § 585.118, 30 C.F.R. Part 590, and 43 C.F.R. Part 4, Subpart E.

Please do not hesitate to contact Mr. Casey Reeves at (703) 787-1671, if you have any questions.

Sincerely,

*Acting for*  
James F. Bennett  
Program Manager  
Office of Renewable Energy Programs

Enclosure  
Conditions of Research Activities Plan Revisions Approval

cc: John Warren, Director  
Commonwealth of Virginia, Department of Mines, Minerals and Energy

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF OCEAN ENERGY MANAGEMENT

Conditions of Research Activities Plan Revisions Approval  
Lease Number OCS-A 0497  
June 20, 2019

The Lessee's right to conduct activities under the approved Research Activities Plan (RAP) as modified by the approved Research Activities Plan Revisions (RAPR) is subject to the following conditions. The Lessor reserves the right to impose additional conditions incident to any future modifications to the RAP. These conditions supersede the March 23, 2016, Conditions of RAP Approval. BOEM has noted as "[COMPLETE]" the conditions that the Lessee has already satisfied.

A full copy of these terms and conditions must be maintained on every project-related vessel.

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## 1. APPLICABLE REGULATIONS AND LEASE TERM

1.1 Construction and Operations Plan Requirements. Pursuant to and in accordance with research lease OCS-A 0497, activities performed under the Lessee's RAP, as modified by the RAPR, must comply with all applicable requirements in the lease and 30 CFR Part 585, including, but not limited to, those provisions applicable to Construction and Operations Plans (COP) in 30 CFR 585.620 through 585.628. With the exception of the waiver of operating fees pursuant to 30 CFR 585.238(g), approval of the Lessee's RAP, as modified by the RAPR, does not: (i) grant more rights to the Lessee than those typically granted by Lessor through the COP approval process, or (ii) relieve the Lessee of its decommissioning obligations set forth in Subpart I of 30 CFR 585.

1.2 Compliance with the Approved RAP, as modified by the RAPR. Pursuant to the terms of research lease OCS-A 0497, the Lessee must conduct activities in accordance with the approved RAP, as modified by the RAPR, as well as any conditions of approval contained herein, except as provided in the applicable regulations in 30 CFR Part 585.

## 2. TECHNICAL CONDITIONS

### 2.1 Unexploded Ordnance (UXO) and/or Discarded Military Munitions (DMM) Investigation.

The Lessee, by itself or through its designated operator, must investigate the area of potential disturbance for the presence of UXO/DMM and evaluate the risk according to the As Low As Reasonably Practical (ALARP), risk mitigation principle. The ALARP risk mitigation principle consists of up to five phases:

Desk top study (DTS)

Investigation surveys to determine presence of objects

Identification surveys to determine the nature of the identified objects

UXO removal and/or construction re-routing

Installation

2.1.1 [COMPLETE] UXO/DMM DTS. The Lessee, by itself or through its designated operator, must submit a DTS to the Lessor for review and approval, disapproval, or approval with modifications. The DTS must be submitted no later than the date the Fabrication and Installation Report (FIR) is submitted to the Lessor, and must include an evaluation of installation risk based on: the proposed construction methodologies, entire project footprint, areas of potential disturbance (anchorage areas, turbine and scour protection, cable route, etc.), probability of UXO/DMM presence, and mobility of sediments and UXO/DMM. The DTS must also identify the specific types of UXO/DMM that qualify as munitions of concern and potential mitigation strategies

such as removal and re-routing. Finally, the DTS must provide specific recommendations for the Investigation Survey, as appropriate, including:

- 2.1.1.1 Areas to be surveyed,
  - 2.1.1.2 Survey line spacing and sensor heights,
  - 2.1.1.3 Width of the survey corridor,
  - 2.1.1.4 Minimum iron content for targets,
  - 2.1.1.5 Details about the testing and proofing of survey methods, and
  - 2.1.1.6 A request for a waiver of the requirements included in 2.1.2 through 2.1.5, if the Lessee, by itself or through its designated operator, does not believe further UXO/DMM study is necessary to ensure safe construction and installation activities.
- 2.1.2 [COMPLETE] UXO/DMM Investigation Survey Plan. Unless a waiver request is approved pursuant to 2.1.1.6, the Lessee, by itself or through its designated operator, must submit an Investigation Survey Plan to the Lessor for review and approval, disapproval, or approval with modifications. The Investigation Survey Plan must describe the areas that need further investigation as discussed in the approved DTS. The Investigation Survey Plan must include information on the proposed survey vessel, equipment, methodologies, and schedule for the Investigation Survey of the areas identified, and must provide the anticipated date of submittal of its UXO/DMM Investigation Survey Report to the Lessor.

If the Investigation Survey Plan is not consistent with the recommendations included in the DTS, the Investigation Survey Plan must discuss in detail the deviations and the rationale behind them.

- 2.1.3 [COMPLETE] UXO/DMM Investigation Survey Report. Unless a waiver request is approved pursuant to 2.1.1.6, the Lessee, by itself or through its designated operator, must submit an Investigation Survey Report for Lessor review and approval, disapproval, or approval with modifications prior to the installation of facilities in the Investigation Survey area. This report must include the following:
- 2.1.3.1 A detailed discussion of utilized methodologies;
  - 2.1.3.2 A summary and detailed description of the findings;
  - 2.1.3.3 A separate list of those findings that identify any conditions different from those anticipated and discussed in the DTS;

- 2.1.3.4 Recommendations for the Identification Survey methods and equipment, if appropriate;
- 2.1.3.5 A statement that the installation methods and UXO/DMM mitigation strategies discussed in the FIR and the DTS are suitable given the results of the Investigation Survey. Alternatively, the Lessee, by itself or through its designated operator, may submit a detailed discussion of alternative installation methods and/or UXO/DMM mitigation strategies that have been determined to be appropriate given the results of the Investigation Survey; and
- 2.1.3.6 A request for a waiver of the requirements included in 2.1.4 through 2.1.5, if the Lessee, by itself or through its designated operator, does not believe further UXO/DMM study is necessary to ensure safe construction and installation activities in the Investigation Survey area.
- 2.1.4 [COMPLETE] UXO/DMM Identification Survey Plan. Unless a waiver request is approved pursuant to 2.1.1.6 or 2.1.3.6, the Lessee, by itself or through its designated operator, must submit an Identification Survey Plan to the Lessor for review and approval, disapproval, or approval with modifications. The Identification Survey Plan must describe the areas that need further investigation as discussed in the approved DTS and the approved Investigation Survey Report. The Identification Survey Plan must include information on the proposed survey vessel, equipment, methodologies, and schedule for the Identification Survey of the areas identified; and must provide the anticipated date of submittal of its UXO/DMM Identification Survey Report to the Lessor. If the Identification Survey Plan is not consistent with the recommendations included in the DTS and Investigation Survey Report, the Identification Survey Plan must discuss in detail the deviations and the rationale behind them.
- 2.1.5 UXO/DMM Identification Survey Report. Unless a waiver request is approved pursuant to 2.1.1.6 or 2.1.3.6, the Lessee, by itself or through its designated operator, must submit an Identification Survey Report for Lessor review and approval, disapproval, or approval with modifications prior to the installation of facilities in the Identification Survey area. This report must include the following:
- 2.1.5.1 A detailed discussion of utilized methodologies;
- 2.1.5.2 A summary and detailed description of the findings;
- 2.1.5.3 A separate list of findings that identify conditions different from those anticipated and discussed in the DTS and the Investigation Survey Report; and
- 2.1.5.4 A statement that the installation methods and UXO/DMM mitigation strategies discussed in the FIR, DTS, and/or Investigation Survey Report are suitable given the

results of the Identification Survey. Alternatively, the Lessee, by itself or through its designated operator, may submit a detailed discussion of alternative installation methods and/or UXO/DMM mitigation strategies that have been determined to be appropriate given the results of the Identification Survey.

2.1.6 UXO/DMM Survey Results Implementation. The Lessee, by itself or through its designated operator, must implement the approved mitigation methods identified in the DTS and/or the Survey Report(s). Additionally, if the Lessee identifies alternative installation strategies in its approved Survey Report(s) that differ from those provided in its FIR, then the Lessee must implement those alternative installation strategies.

2.2 Decommissioning Depth. The Lessee, by itself or through its designated operator, must decommission facilities to a depth of 15 feet (4.6 m) below the mudline, as set forth in 30 CFR 585.910, unless otherwise authorized by the Lessor pursuant to Subpart I of 30 CFR 585.

2.3 Safety Management System (SMS). No later than 30 days prior to construction activities, the Lessee, by itself or through its designated operator, must provide a SMS to the Lessor and must explain how it will demonstrate, or has already demonstrated, that it is fully functional. In addition to the requirements listed in 30 CFR 585.810, the SMS must include detailed information that demonstrates compliance with the requirements identified in 2.3.1 and 2.3.2.

2.3.1 Diving Safety Program. The SMS must include a diving safety program in accordance with the U.S. Coast Guard (USCG) regulations for Commercial Diving Operations at 46 CFR Part 197, Subpart B.

2.3.2 Fall Protection Program. The SMS must include a fall protection program that complies with ANSI/ASSE Z-359.2, Minimum Requirements for a Comprehensive Managed Fall Protection Program.

2.4 Oil Spill Response Plan (OSRP). The Lessee, by itself or through its designated operator, must submit an OSRP to the Lessor no later than 30 days before the installation of any components of your facility that may handle or store oil on the Outer Continental Shelf. Your OSRP must be consistent with the National Contingency Plan and appropriate Area Contingency Plan(s). Your OSRP must contain the following information:

2.4.1 Facility Information. A description of the type and amounts of oil on the facility, and design parameters intended to monitor for and/or prevent oil spills. Your plan should include copies of Material Safety Data Sheets (MSDS) for any oils present on any component of the project in quantities greater than 100 gallons.

2.4.1.1 “Oil” means oil of any kind or in any form, including but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. It does not include animal fats, oils, and greases, and fish and marine mammal oils, or oils of vegetable origin, including oils from seeds nuts, and kernels.

2.4.2 Qualified Individuals (QIs). The name of your QI and an alternate, and their 24-hour contact information including phone numbers and e-mail addresses.

2.4.2.1 “Qualified Individual” means an English-speaking representative of an owner or operator, located in the United States, available on a 24 hour basis, with full authority to obligate funds, carry out removal actions, and communicate with the appropriate officials and person providing personnel and equipment in removal operations.

2.4.3 Notification Procedures. Descriptions of the procedures for your QI to notify the National Response Center (NRC), BOEM and BSEE, the Oil Spill Removal Organization (OSRO), and any other appropriate officials or personnel should a discharge occur.

2.4.4 Oil Spill Removal Organizations (OSROs). A list of OSROs that are available to respond to a worst case discharge (WCD) of oil from your offshore facilities and their contact information.

2.4.4.1 For the purposes of a renewable energy facility, “worst case discharge” is defined as the release of all oil from a single component located at an offshore facility, such as a WTG or an ESP.

2.4.4.2 As a minimum requirement, the OSRP must contain a Letter of Intent (LOI) from each OSRO acknowledging that it has agreed to be listed in the plan.

2.4.4.3 The OSRP must also include a map(s) that shows equipment storage sites and staging location(s) for the oil spill response equipment that would be deployed by the facility operators or the OSRO(s) listed in the plan in the event of a discharge.

2.4.5 Spill Mitigation Procedures. The OSRP must describe the different discharge scenarios that could occur at components of the offshore facility that contain oil stored in quantities greater than 100 gallons, and the mitigation procedures by which the offshore facility operator and any listed/contracted OSROs would respond to such discharges. The mitigation procedures should address:

2.4.5.1 Quantity and type(s) of oil at any component covered by this section.

2.4.5.2 Responding to both smaller spills (such as slow, low volume leakage) and larger spills to include the WCD for each type of component located at the offshore facility, including WTGs and ESPs.

- 2.4.6 Resources at Risk. Provide a concise list of the sensitive resources that are located near your offshore facility and could be oiled by a spill. In lieu of listing sensitive resources, you may identify the areas that could be oiled by a spill from your facility, and provide links to corresponding Environmentally Sensitive Index (ESI) Maps and/or Geographic Response Strategies (GRSs) for those areas from the appropriate Area Contingency Plans (ACP) .
- 2.4.7 OSRP Information. The address of the onshore location where the OSRP is kept and any associated records of its testing and/or implementation.
- 2.4.8 Training. A description of the procedures for an annual notification drill to test the ability of the QI to conduct the required notifications, to activate an OSRO (if necessary), and to communicate pertinent information regarding the facility emergency situation and any necessary response measures to the Lessor. You must maintain records for training and exercises for three years. Records must be provided to BSEE or BOEM upon request.
- 2.4.9 OSRP Maintenance. If any of the required contents of your OSRP change, then you must update the OSRP and provide notice to the Lessor no more than 30 days after said change. The OSRP should be reviewed and updated as needed, but at intervals not to exceed once every two years, starting from the date the OSRP was initially approved. You shall send a written notification to the Lessor that this review has taken place.

### **3. CONDITIONS FOR CULTURAL RESOURCES PROTECTION**

- 3.1 No Impact without Approval. The Lessee, by itself or through its designated operator, must not knowingly impact a potential archaeological resource without the Lessor's prior approval.
- 3.2 Avoidance of Identified Resources. The Lessee, by itself or through its designated operator, must avoid two potential historic period archaeological resources, identified as CR001 (44VB0376) and LA001 (444VB0377), that have been deemed to be possible shipwrecks. The avoidance area must extend a minimum of 50 meters (m) (164 feet (ft)), measured from the center point of each identified resource.
- 3.3 Coordination with Virginia Army National Guard Regarding Cultural Resource Avoidance and Monitoring within Camp Pendleton State Military Reservation Historic District. Prior to initiating any construction activities associated with the onshore interconnection cable, the Lessee, by itself or through its designated operator, must coordinate with and receive concurrence from Virginia Army National Guard (VAARNG) regarding proposed avoidance and monitoring methods per 3.3.1, 3.3.2, and 3.3.3 below. If the Lessee is unable to reach



concurrence with the VAARNG regarding means for avoidance and monitoring as described in 3.3.1, 3.3.2, and 3.3.3 below, the Lessee, by itself or through its designated operator, must notify the Lessor, at which point the Lessor will reopen consultations under Section 106 of the National Historic Preservation Act in order to facilitate resolution. The VAARNG point of contact for this project is Susan Smead, VAARNG Cultural Resources Program Manager, Susan.e.smead.nfg@mail.mil, 434-298-6411.

3.3.1 Onshore Switch Cabinet. The Lessee, or its designated operator, must propose to VAARNG measures with respect to location, size, scale, materials, color, and screening of the cabinet that minimize the visual impacts on historic properties.

3.3.2 Building 94. The Lessee, or its designated operator, must propose to VAARNG measures to avoid impacts and ensure protection of the architectural historic properties and their environmental setting during construction activities in the area of Building 94 and its associated outbuildings. Avoidance measures must minimally include installation of temporary safety fencing.

3.3.3 Archaeological Monitoring. The Lessee, by itself or through its designated operator, must coordinate with the VAARNG regarding all ground-disturbing activities within the Camp Pendleton State Military Reservation Historic District. DMME must provide VAARNG with “for construction” drawings for review and comment prior to the start of construction activities. The Lessee, or its designated operator, must provide an archaeologist meeting the Secretary of the Interior’s Professional Qualification Standards to perform on-site archaeological monitoring of all such ground-disturbing activity, in particular in the vicinity of Building 94 and its associated outbuildings and the Beachfront Rifle Range. The Lessee, or its designated operator, must follow the VAARNG “SOP for the inadvertent Discovery of Cultural Materials” for all such ground-disturbing activities.

3.4 Post-Review Discovery Clauses. If, while conducting activities under the RAP, the Lessee, by itself or through its designated operator discovers a potential archaeological resource, such as the presence of a shipwreck (e.g., a sonar image or visual confirmation of an iron, steel, or wooden hull, wooden timbers, anchors, concentration of historic objects, piles of ballast rock), prehistoric artifacts, or relict landforms, etc. within the project area, the Lessee, by itself or through its designated operator, must:

3.4.1 Immediately halt seafloor/bottom-disturbing activities within the area of discovery;

3.4.2 Notify the Lessor within 24 hours of discovery;

3.4.3 Notify the Lessor in writing via report to the Lessor within 72 hours of its discovery;

3.4.4 Keep the location of the discovery confidential and take no action that may adversely affect the archaeological resource until the Lessor has made an evaluation and instructs the

Lessee, by itself or its designated operator, on how to proceed, including when activities may recommence; and

3.4.5 Conduct any additional investigations as directed by the Lessor to determine if the resource is eligible for listing in the National Register of Historic Places (30 CFR 585.802(b)). The Lessee, by itself or its designated operator, must do this if: (1) the site has been impacted by the Lessee's project activities; and/or (2) impacts to the site or to the area of potential effect cannot be avoided. If investigations indicate that the resource is potentially eligible for listing in the National Register of Historic Places, the Lessor will instruct the Lessee, by itself or its designated operator, as to how to protect the resource or how to mitigate adverse effects to the site. If the Lessor incurs costs in protecting the resource, under Section 110(g) of the National Historic Preservation Act, the Lessor may charge the Lessee reasonable costs for carrying out preservation responsibilities under OCS Lands Act (30 CFR 585.802(c-d)).

#### **4. CONDITIONS FOR AVIAN AND BAT PROTECTION**

##### **4.1 Lighting Requirements**

4.1.1 Aviation Obstruction Lights. The Lessee, by itself or through its designated operator, will only use red flashing strobe-like lights for aviation obstruction lights (as described in Section 3.2.3.2 of the revised Virginia Offshore Wind Technology Advancement Project on the Atlantic Outer Continental Shelf Offshore Virginia Environmental Assessment – OCS EIS/EA BOEM 2015-031 (hereinafter, the Revised EA), and must ensure that these aviation obstruction lights emit infrared energy within 675 – 900 nanometers wavelength to be compatible with Department of Defense night vision goggle equipment.

4.1.2. Marine Navigation Lights. Any lights used to aid to marine navigation by the Lessee or its designated operator during construction, operations and decommissioning must meet USCG requirements for private aids to navigation [[https://www.uscg.mil/cg/CG\\_2554.pdf](https://www.uscg.mil/cg/CG_2554.pdf)].

4.1.3 Other Lighting. For lighting not described in Section 4.1.1 or 4.1.2 above, the Lessee, by itself or through its designated operator, must use such lighting only when necessary, and the lighting must be hooded downward and directed when possible to reduce upward illumination and the illumination of adjacent waters.

4.2 Anti-perching Devices. The Lessee, by itself or through its designated operator, must install anti-perching devices on both WTGs in order to minimize the attraction of birds to the WTGs and reduce the potential for collisions.

##### **4.3 Monitoring Requirements.**

4.3.1 Post-Construction Monitoring Plan. The Lessee, by itself or through its designated operator, will coordinate with the Lessor, U.S. Fish and Wildlife Service (USFWS), and Virginia Department of Game and Inland Fisheries (VDGIF) to finalize the draft *Bird and Bat Post-Construction Monitoring Plan (March 2015)* (Monitoring Plan) prior to the commencement of operations. For the first full year after commencement of operations, the monitoring must also include:

4.3.1.1 Thermal imaging/infrared camera monitoring to estimate collision and avoidance rates of birds. These cameras must be mounted on both WTGs, and must sample during the Spring (April 1 to May 31) and Fall (August 15 to October 31) migration periods, and during the Winter (January 15 to March 15);

4.3.1.2 Boat-based avian surveys, in order to estimate bird density and to compare to pre-construction estimates; and

4.3.1.3 Acoustic monitoring of bat activity. Acoustic monitoring devices must be mounted on both WTGs during the Spring (April 15 to June 15) and Fall (August 15 to October 31) migration periods.

4.3.2 Monitoring Plan Revisions. Following delivery of the comprehensive monitoring report (see Section 4.3.3.2 below), the Lessee, by itself or through its designated operator, must discuss the following with BOEM, USFWS and VDGIF: the monitoring results; the potential need for reasonable revisions to the Monitoring Plan, including technical refinements and/or additional monitoring; and the potential need for any additional efforts to reduce impacts. If the Lessor determines after this discussion that reasonable revisions to the Monitoring Plan are necessary, the Lessor may require the Lessee to modify the Monitoring Plan. If the reported monitoring results deviate substantially from the impact analysis included in the Revised EA (Section 3.2.3.2), the Lessor may impose additional requirements on the Lessee to address these impacts.

4.3.3 Reporting Requirement for Avian and Bat Species.

4.3.3.1 Monthly Progress Reports. The Lessee, by itself or through its designated operator, will provide monthly progress reports on post-construction avian and bat monitoring to BOEM, USFWS, and VDGIF during the first full year that the project is operational. The progress report must include a summary of all work performed, as explanation of all overall progress, and any technical problems encountered.

4.3.3.2 Monitoring Reports. The Lessee, by itself or through its designated operator, will submit to the Lessor a comprehensive monitoring report within 120 calendar days of completion of the last boat-based avian and/or bat survey. The report must include all data, analyses, and summaries regarding ESA-listed and non-ESA-listed birds and bats.

4.3.3.3 Annual Report and Carcass Reporting. By January 31 of each year, the Lessee, by itself or through its designated operator, must provide BOEM, USFWS and VDGIF a report documenting any dead birds or bats found on vessels and structures during construction, operations and decommissioning. Each report must contain the following information: the names of species, date found, location, picture to confirm species identity (if possible), and any other relevant information. The Lessee, by itself or through its designated operator, must report carcasses with Federal or research bands to the USGS Bird Band Laboratory (<https://www.pwrc.usgs.gov/bbl/>).

4.3.3.4 Raw Data. The Lessee, by itself or through its designated operator, must store the raw data from all avian and bat surveys and monitoring activities according to accepted archiving practices. Such data must remain accessible to the Lessor and USFWS, upon request, for the duration of the lease.

## **5. GENERAL CONDITIONS RELATING TO MARINE PROTECTED SPECIES AND ESSENTIAL FISH HABITAT**

### **5.1 General Requirements.**

5.1.1 The conditions provided in Section 5 supersede those provided in Section 4.1 of Addendum “C” of research lease OCS-A 0497. The Lessee, by itself or through its designated operator, must ensure that all personnel conducting activities pursuant to a lease comply with the conditions in Section 5 specified below, when the safety of the vessel and crew permits. In the event that the NMFS ESA Section 7 Biological Opinion for the Virginia Offshore Wind Technology Advancement Project (issued March 16, 2016) (the “Biological Opinion”) or programmatic opinion on geological and geophysical surveys (July 19, 2013) (“Programmatic Opinion”) is updated or amended, the Lessor reserves the right to amend the applicable terms and conditions herein to conform to the updated or amended Biological and/or Programmatic Opinions.

5.1.2 Prior to conducting activities pursuant to the RAP, the Lessee, by itself or through its designated operator, must hold a briefing to establish the responsibilities of each party involved in implementing the requirements specified in Sections 5 through 9 of these terms and conditions. During this briefing, the parties involved must define the chains of command, discuss communication procedures, provide an overview of monitoring requirements, and review operational procedures. This briefing must include all relevant personnel, crewmembers and protected species observers (PSOs). New personnel must be briefed as they join the work in progress.

5.1.3 The Lessee, by itself or through its designated operator, must ensure that all vessel operators and crewmembers, including PSOs, are familiar with, and understand, the requirements specified in Section 5 through Section 9 of these terms and conditions.

5.1.4 The Lessee, by itself or through its designated operator, must ensure that a copy of Section 5 through Section 9 of these terms and conditions are made available on every project related vessel.

5.2 Minimum Separation Distances from Protected Species. The Lessee, by itself or through its designated operator, must ensure all vessel operators and crews maintain a vigilant watch for protected species. All vessels must maintain the following minimum separation distances from any sighted protected species to avoid potential harm or harassment, when the safety of the vessel and crew permits:

5.2.1 500 m (547 yd) or greater from any sighted North Atlantic right whale or other unidentified large marine mammal;

5.2.2 100 m (109 yd) or greater from any sighted ESA-listed whales other than a North Atlantic right whale; and 50 m (55 yd) or greater from any sighted small cetaceans (dolphins and porpoises), seals, sea turtles, and giant manta rays.

5.3 Requirements for Vessel Strike Avoidance. The Lessee, by itself or through its designated operator, must ensure that all vessels conducting activities pursuant to the RAP comply with the vessel strike avoidance measures specified below, when the safety of the vessel and crew permits.

5.3.1 Vessel operators and crews must maintain a vigilant watch for marine mammals, sea turtles, and giant manta rays to avoid striking sighted protected species.

5.3.2 All vessel operators regardless of size must reduce vessel speed to 10 knots (18.5 mph) or less in any Dynamic Management Area established for right whales, or when mother/calf pairs, groups, or large assemblages of cetaceans are observed near an underway vessel. Vessels must route around the animals and maintain minimum separation distances from protected species whenever possible.

5.3.3 Vessels underway must not divert their course to approach any protected species.

5.3.4 When marine mammals approach an underway vessel (e.g., bow-riding by small cetaceans), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until the animal has left the area.

5.3.5 When an animal is sighted within 100 m forward of any vessel transiting at speeds greater than 10 knots, when safety permits, reduce speed and shift the engine to neutral. Do not engage the engines until the animals are greater than 100 m from the vessel.

5.3.6 The Lessee, by itself or through its designated operator, must ensure all vessel operators monitor communication media for general information regarding avoiding ship strikes and daily information regarding North Atlantic right whale sighting locations. These media may include, but are not limited to, NOAA weather radio, U.S. Coast Guard NAVTEX broadcasts, Notices to Mariners, and the Whale Alert app.

5.3.7 All vessels greater than or equal to 19.8 m (65 ft) in length must operate at 10 knots (11.5 mph) or less within any active Seasonal Management Area (SMA) designated for the North Atlantic right whale in the project area (see the current SMA maps, coordinates, and times of year at <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>). The project area includes the lease area, export cable route, and any vessel transit corridors associated with research lease OCS-A 0497.

<b>Seasonal Management Area</b>	<b>Effective Dates</b>
<u>Northeast Feeding Areas</u>	
Cape Cod Bay SMA	Jan 1 – May 15
Off Race Point SMA	Mar 1 – Apr 30
Great South Channel SMA	Apr 1 – Jul 31
<u>Mid-Atlantic Migratory Route</u>	
Port and vessel route areas from Block Island, RI to Savannah, GA	Nov 1 – Apr 30
<u>Southeast Calving and Nursery Grounds</u>	
South GA to North FL	Nov 15 – Apr 15

5.3.8 The Lessee, by itself or through its designated operator, must ensure that the following avoidance measures are taken if a vessel comes within 500 m (547 yd) of any North Atlantic right whale:

5.3.8.1 If underway, a vessel must steer a course away from the North Atlantic right whale at 10 knots or less until the 500 m (547 yd) minimum separation distance has been established.

5.3.8.2 Anytime a North Atlantic right whale is sighted within 100 m (109 yd) of an underway vessel, the vessel operator must immediately reduce speed and shift the engine to neutral. The vessel operator must not reengage the engines until the North Atlantic right whale has moved beyond 100 m (109 yd) and steer a course away from the whale.

5.3.9 Injured, dead, or entangled right whales should be reported immediately to the U.S. Coast Guard via VHF Channel 16.

5.4 Marine Debris Prevention. The Lessee, by itself or through its designated operator, must ensure that vessel operators, employees, and contractors engaged in activities pursuant to the RAP are briefed on marine trash and debris awareness elimination as described in the BSEE NTL No. 2015-G03 (“Marine Trash and Debris Awareness and Elimination”). The Lessee, by itself or through its designated operator, must ensure that its employees and contractors receive training on the environmental and socioeconomic impacts associated with marine trash and debris, as well as their responsibilities for ensuring that trash and debris are not intentionally or accidentally discharged into coastal and marine environment.

5.5 Protected Species Observers. The Lessee, by itself or through its designated operator, must use qualified PSOs to monitor default watch and exclusion zones during activities conducted pursuant to the Lease, the RAPR, or these conditions of approval.

5.5.1 The Lessee by itself or through its designated operator, must ensure all PSOs and passive acoustic monitoring (PAM) operators have completed a PSO and/or PAM training program, as appropriate. The Lessee must ensure all PSOs are approved by NMFS prior to the commencement of work. Instructions and application requirements to become a NMFS-approved PSO can be found at:

<https://www.greateratlantic.fisheries.noaa.gov/protected/esaobserver/index.html>. Prior to commencement of activities, the Lessee, by itself or through its designated operator, must provide the Lessor a current approval from NMFS indicating that the PSOs are qualified to work on the survey, and documentation of the individual PSO’s successful completion of a commercial PSO training course and/or PAM operator course with an overall examination score of 80% or greater (Baker et. al 2013).

5.5.2 No later than 7 calendar days prior to the scheduled start of survey activities or pile driving, the Lessee, by itself or through its designated operator, must provide to the Lessor a list of NMFS-approved PSOs for each activity.

5.5.3 The Lessee, by itself or through its designated operator, must submit a PSO/PAM Operator schedule showing that the number of PSOs used is sufficient to effectively monitor the affected area for the project (e.g., surveys or pile driving) according to the following: a) PSOs must not be on watch for more than 4 consecutive hours, with at least a 2-hour break after a 4-hour watch, unless otherwise authorized by the Lessor; b) PSOs must not work for more than 12 hours in any 24-hour period (Baker et al. 2013).

## **6. HIGH-RESOLUTION GEOPHYSICAL (HRG) SURVEY SOUND SOURCE**

## **VERIFICATION**

The Lessee, by itself or through its designated operator, must submit information sufficient to verify sound source characteristics as specified by the Lessor, as well as information that verifies zone of influence distances for HRG survey equipment and other devices producing active acoustic frequencies less than 200 kHz.

6.1. Sound Source Verification (SSV). No later than 45 calendar days prior to the commencement of survey activities, the Lessee, by itself or through its designated operator, must submit the results of SSV for any active acoustic devices that may be used in those surveys. The Lessee, by itself or through its designated operator, must submit sound source verification results containing the frequencies, source level (dB re 1 $\mu$ Pa), and modeled distances in accordance with the most current guidance specified by the Lessor for ear injury and behavioral disturbance in the survey area. If existing SSV data is available, the analysis must explain why the existing data is representative of the equipment in the area to be surveyed. This explanation must include a discussion of any differences between the equipment tested and the equipment to be used, differences in propagation characteristics conditions (depth, water temperature and bottom conditions), and how those differences would affect sound propagation and injury and behavioral disturbance distances. No surveys may begin until the Lessor determines that the sound source verification is sufficient to determine the equipment is within the scope of any relevant assessments completed under NEPA, ESA, and/or the MMPA.

6.2. Field Measurements for SSV. If the existing SSV information is not available or acceptable, the Lessee, by itself or through its designated operator, must submit to the Lessor a SSV plan for field measurements for any HRG equipment that will be used. Acoustic measurements must be sufficient to establish the following: frequencies, source level (Peak, SEL, and RMS sound pressure levels re 1  $\mu$ Pa at 1 m), and the sound exposure distance for ear injury and behavioral harassment thresholds for marine mammal functional hearing groups, sea turtles, and fish as specified by the Lessor when the SSV plan is submitted. The Lessee, by itself or through its designated operator, must take these sound measurements from at least three reference distances at two depths (i.e., a depth at mid-water and a depth at approximately 1 meter above the seafloor). The results of the field measurements must be provided to the Lessor at least 24 hours before commencing a survey. If the Lessor determines that the exclusion zone does not encompass the sound-exposure threshold for ear injury to protected species, the Lessor will consult with NMFS and may impose additional requirements on the Lessee to mitigate impacts to marine species. Any new proposed exclusion zone radius must be based upon the most conservative field measurements of the largest exclusion zone and diving behaviors of the protected species in the survey area. The Lessee, by itself or through its designated operator, must obtain Lessor approval of any new exclusion zone before it may be implemented.



## **7. HRG SURVEY CONDITIONS**

In addition to the vessel strike avoidance measures set forth in 5.3, the Lessee must minimize potential harm to marine mammals by implementing the following measures for all vessels conducting activities using HRG survey equipment operating at or below 200 kHz . Any survey plan must meet the following minimum requirements specified below, when the safety of the vessel and crew permits.

7.1 Visibility. The Lessee, by itself or through its designated operator, must not commence surveys with HRG equipment operating under 200 kHz at any time when lighting or weather conditions prevent visual monitoring of the exclusion zones as specified below (e.g., darkness, rain, fog, sea state). BOEM may modify this requirement pursuant to 7.6.

7.2 Watch Zones. The Lessee, by itself or through its designated operator, must monitor a default watch zone distance of 500 m (547 yd) for North Atlantic right whales around each vessel conducting HRG survey activities. If surveys are conducted in an area where North Atlantic right whales are known not to occur, such as shallow inlets and bays, the Lessee, by itself or through its designated operator, must monitor a default watch zone of 200 m (219 yd) for all marine mammals and sea turtles.

7.3 Exclusion Zones. The Lessee, by itself or through its designated operator, must monitor minimum exclusion zone distances of 500 m for North Atlantic right whales, and 200 m for other large whales and sea turtles at all times, and demarcate those distances within the watch zone with effective distance finding methods (e.g., reticle binoculars, range finding sticks, monitoring system software).

7.4 Non-Listed Marine Mammals. The Lessee, by itself or through its designated operator, must monitor watch zones and exclusion zones for non-listed marine mammals as required by NMFS through project-specific mitigation and monitoring requirements of Incidental Take Authorizations (ITAs). If an ITA is not required, the Lessee, by itself or through its designated operator, must monitor default exclusion zones of 100 m for harbor porpoises and humpback whales, and 50 m for all other non-listed marine mammals around each vessel conducting HRG survey activities.

7.5 Monitoring of Watch and Exclusion Zones. The watch and exclusion zones must be monitored visually by qualified PSOs and PAM Operators, as appropriate.

Visual monitoring must occur from the highest available vantage point on the associated operational platform that allows for 360-degree scanning, as long as it is safe to do so. The Lessee, by itself or through its designated operator, must ensure that each PSO has access to equipment suitable to monitor the watch and exclusion zones and determine the distance to protected species during surveys conducted in support of activities associated with a lease.

Digital camera equipment must be used to record sightings and verify species identification to the greatest extent practicable.

7.5.1 HRG Monitoring in Poor Visual Monitoring Conditions. If a Lessee, by itself or through its designated operator, wishes to conduct HRG surveys at night or in other conditions that preclude visual observations, it must submit to the Lessor an alternative monitoring plan detailing the proposed monitoring methodology, including procedures and equipment specifications for PAM and infrared/thermal night vision equipment for PSOs. The Lessor may require the Lessee to modify the plan. No surveys in poor visual monitoring conditions may occur until the Lessor approves the alternative monitoring plan.

7.6 HRG Pre-Survey Clearance for Protected Species. The Lessee, by itself or through its designated operator, must ensure that at the beginning of each survey, active acoustic sound sources operating at less than 200 kHz are not activated until a PSO has verified the exclusion zone to be clear of all protected species for the following durations: 60 minutes for sea turtles; 30 minutes for ESA-listed whales, humpback whales, *Kogia*, and beaked whales; and 15 minutes for small cetaceans and seals.

7.7 Electromechanical Survey Equipment “Ramp Up.” The Lessee, by itself or through its designated operator, must employ a “ramp up” of the electromechanical survey equipment at the start or re-start of HRG survey activities when the safety of the vessel and crew permits. A ramp up must begin with the power of the smallest acoustic equipment for the HRG survey at its lowest power output. The power output must be gradually turned up and other acoustic sources added such that the source level increases in steps not exceeding 6 dB per 5-minute period.

7.8 Dynamic Management Area (DMA) Shutdown Requirement. The Lessee, by itself or through its designated operator, must cease HRG survey activities within 24 hours of NMFS establishing a DMA in the HRG survey area. The Lessee, by itself or through its designated operator, may resume HRG surveys as soon as the DMA has expired.

7.9 HRG Equipment Shutdowns for Protected Species. The Lessee, by itself or through its designated operator, must ensure that any time a marine mammal is sighted within the exclusion zones defined in 7.2 and 7.3, the PSO will require the Resident Engineer or other authorized individual to cause a shutdown of the electromechanical survey equipment. HRG survey equipment may continue operating if marine mammals voluntarily approach the vessel (e.g., to bow ride) when the sound sources are at full operating power. The vessel operator must comply immediately with any call for a shutdown by the PSO. Any disagreement or discussion must occur only after the shutdown.

7.10 Resuming HRG Survey Activity Following a Shutdown. Following a shutdown, ramp up of the equipment per 7.7 may begin only if visual monitoring of the exclusion zone continues throughout the shutdown, the animals causing the shutdown were visually followed and confirmed by PSOs to be outside of the exclusion zone and heading away from the vessel, and

the exclusion zone remains clear of all protected species for the following monitoring periods: 15 minutes for small cetaceans and seals, 60 minutes for ESA-listed whales, and 30 minutes for humpback whales, *Kogia*, and beaked whales.

7.11 HRG Equipment Shutdowns for Reasons other than Protected Species. The Lessee, by itself or through its designated operator, must ensure that for all shutdowns of HRG survey equipment greater than 20 minutes due to reasons other than the presence of a marine mammal, the exclusion zone is clear before ramp up procedures commence per 7.7. For pauses less than 20 minutes, the equipment may be restarted as soon as practicable at its operational level as long as the PSO have continued visual surveys throughout the silent period and the exclusion zone remains clear of all protected species.

## **8. CONDITIONS ON PILE DRIVING WIND TURBINE GENERATOR FOUNDATIONS**

8.1 General. The Lessee, by itself or through its designated operator, must ensure that all vessels conducting pile driving activity pursuant to the RAP comply with the requirements specified in Section 8.

8.2 Visibility. The Lessee, by itself or through its designated operator, must not commence pile driving for foundations at any time when lighting or weather conditions prevent visual monitoring of the exclusion zones for foundation pile driving as specified below (e.g., darkness, rain, fog, sea state). BOEM may modify this requirement pursuant to 8.4.

8.3 Continuation of Pile Driving After Daylight Hours. If the driving of a pile commenced during daylight hours, the Lessee, by itself or through its designated operator, may complete driving that pile after daylight hours. However, the Lessee, by itself or through its designated operator, may not start driving a new pile after daylight hours, unless allowed pursuant to an alternative monitoring plan as described in 8.4.

8.4 Modification of Visibility Requirement. If the Lessee, by itself or through its designated operator, wishes to conduct pile driving of foundations at night or in other conditions that preclude visual observations, it must submit to the Lessor an alternative monitoring plan detailing the proposed monitoring methodology, including procedures and equipment specifications for PAM and infrared/thermal night vision equipment for PSOs.. The Lessor may require the Lessee to modify the plan. No nighttime pile driving may begin until the Lessor approves the alternative monitoring plan. T

8.5 PSO. The Lessee, by itself or through its designated operator, must ensure that the exclusion zone for all pile driving for monopile foundations is monitored by NMFS-approved PSOs around the sound source. The number of PSOs must be sufficient to effectively monitor

the exclusion zone at all times. In order to ensure effective monitoring, PSOs must be on watch for no more than 4 consecutive hours, with at least a 2-hour break after a 4-hour watch, unless a different schedule is approved by the Lessor. PSOs must not work for more than 12 hours in a 24-hour period. PSO reporting requirements are provided in Section 9. The Lessee, by itself or through its designated operator for each approved activity, must provide to the Lessor a list of PSOs, evidence of PSO survey training, and letter of PSO approval from NMFS no later than seven calendar days prior to the scheduled start of monopile foundation construction activity.

8.6 Observation Location. The Lessee, by itself or through its designated operator, must ensure that monitoring occurs from the highest available and safe vantage point on the associated operational platform that allows for 360-degree scanning.

8.7 Equipment Availability. The Lessee, by itself or through its designated operator, must ensure that reticle binoculars and other suitable equipment are available to each PSO to adequately perceive and monitor protected species within the exclusion zone during construction activities.

8.8 Limitations on Pile Driving. The Lessee, by itself or through its designated operator, must ensure that no pile-driving activities occur from November 1 – April 30.

8.9 Establishment of an Exclusion Zone for Marine Mammals. The Lessee, by itself or through its designated operator, must ensure the establishment of default exclusion zones for marine mammals as set forth in your Incidental Take Authorization under the MMPA. The Lessee, by itself or through its designated operator, must provide to the Lessor a copy of the authorization prior to commencing such activities.

8.9.1 Establishment of an Exclusion Zone for Sea Turtles. The Lessee, by itself or through its designated operator, must establish a default exclusion zone of 1,000 m (3,281 ft) around each pile for sea turtles. This exclusion zone must be monitored from two locations. At least two PSOs on simultaneous watch must monitor in all direction out to 500 m (1,641 ft) from each pile. At least two additional PSOs on simultaneous watch must be located on a separate vessel and monitoring the area between 500 m (1,641 ft) to 1,000 m (3,281ft) surrounding each pile.

8.10 Acoustic Monitoring. The Lessee, by itself or through its designated operator, must conduct acoustic monitoring of pile driving activities during the installation of each foundation. Acoustic measurements must be taken during the entire pile driving process for each monopile. The Lessee, by itself or through its designated operator, must take acoustic measurements that are sufficient to establish the following: source level (peak at 1 m) and distance to the 180, 166, 160, and 150 dB re 1 $\mu$ Pa (RMS) SPL isopleths, the 210 dB re 1 $\mu$ Pa cSEL and 207 dB<sub>peak</sub> distances, the 187 dB re 1 $\mu$ Pa cSEL, and the NOAA guidance for assessing marine mammal impacts from underwater noise. Additionally, the Lessee, by itself or through its designated operator, must record the bearings from the monopile to the strike surfaces of each monopile, as well as the bearing from the monopile to where each monopile enters the ocean floor. Such

sound measurements must be taken at the reference locations at two depths (i.e., a depth at midwater and a depth at approximately 1m above the seafloor). Sound pressure levels must be measured in the field in dB re 1  $\mu$ Pa (RMS) and reported by the Lessee, by itself or through its designated operator, to the Lessor and NMFS (per Section 9.6).

8.11 Notification of Exclusion or Monitoring Zones. The Lessee, by itself or through its designated operator, must ensure that the results of acoustic monitoring conducted according to 8.10 are submitted to the Lessor and NMFS within 24 hours of foundation installation. The Lessee, by itself or through its designated operator, must include in its report a preliminary interpretation of the results for each pile installation, including the operating frequencies, sound pressure levels (RMS), received cSELs, and frequency bands covered, as well as associated latitude/longitude positions, ranges, depths and bearings between sound sources and receivers. The Lessee, by itself or through its designated operator, may only modify an exclusion zone or monitoring zone with written approval from the Lessor as required in Section 8.11.

8.12 Modification of Exclusion Zone. The Lessee, by itself or through its designated operator, may seek the Lessor's approval to modify the default exclusion zone for pile driving activities. If the Lessor determines that the exclusion zone does not encompass the sound-exposure threshold for ear injury to protected species, the Lessor will consult with NMFS and may impose additional requirements on the Lessee to mitigate impacts to protected species. The Lessee, by itself or through its designated operator, may periodically reevaluate the modified zone using the field monitoring procedure described in 8.10. Any new proposed exclusion zone radius must be based upon the most conservative field measurements of the largest exclusion zone and diving behaviors of the protected species in the survey area. The Lessee, by itself or through its designated operator, must obtain Lessor approval of any new exclusion zone before it is implemented.

8.13 Clearance of Exclusion Zone. The Lessee, by itself or through its designated operator, must ensure that visual monitoring of the exclusion zone begins no less than 60 minutes prior to the start of any pile driving operations and continues for at least 60 minutes after pile driving operations cease. The Lessee, by itself or through its designated operator, must ensure that pile-driving operations do not begin until the PSO has reported the exclusion zone clear of all marine mammals and sea turtles for at least 60 minutes. If a marine mammal or sea turtle is observed, the PSO must note and monitor the position of, relative bearing of, and estimated distance to the animal until the animal dives or moves out of visual range of the PSO.

8.14 Implementation of Soft Start. The Lessee, by itself or through its designated operator, must implement the following "soft start" procedure at the beginning of each pile installation or when pile driving has ceased for one hour or more: 3 strike sets, with a 1-minute wait period between each strike set. The initial strike set will be at approximately 10 percent energy, the second strike set at approximately 25 percent energy, and the third strike set at approximately 40

percent energy. The soft start procedure must last for at least 20 minutes. Strikes may continue at full operational power following the soft start procedure.

8.15 Shut Down for Marine Mammals and Sea Turtles. The Lessee, by itself or through its designated operator, must ensure that any time a marine mammal or sea turtle is observed within the required exclusion zone, the PSO will notify the Dominion Construction Compliance Manager, Resident Engineer, or other authorized individual, and call for a shutdown of pile driving activity. Any disagreement or discussion must occur only after the shutdown.

8.16 Resuming Pile Driving Following a Shutdown. The Lessee, by itself or through its designated operator, must ensure that anytime pile driving activity shuts down (for instance, presence of protected species in the exclusion zone, poor weather, or equipment failure), restart of the pile driving activity will commence only after clearance of the exclusion zone (per Section 8.13) and implementation of soft start procedures (per Section 8.14).

## **9. REPORTING REQUIREMENTS FOR MARINE PROTECTED SPECIES AND ESSENTIAL FISH HABITAT**

9.1 General. The Lessee, by itself or through its designated operator, must ensure compliance with the reporting requirements in Section 9 for activities conducted pursuant to the RAP and RAPR, and must use the contact information provided as Enclosure 1, or updated contact information as provided by the Lessor, in fulfilling these requirements.

9.2 Pre-Commencement and Completion of Pile Driving Notifications. The Lessee, by itself or through its designated operator, must notify the Lessor and NMFS at least 24 hours prior to the initial commencement of pile driving activities, and again within 24 hours of the completion of all pile driving activities.

9.3 PSO Reports. The Lessee, by itself or through its designated operator, must ensure that the PSOs record all observations of protected species and submit them to BOEM. The list of required data elements for these reports is provided as Enclosure 2. Reports of any ESA-listed species observations, including Atlantic sturgeon, must be submitted to the Lessor and NMFS within 48 hours of the observation.

9.4 Reporting Injured or Dead Protected Species. The Lessee, by itself or through its designated operator, must ensure that sightings of any injured or dead protected species (e.g., marine mammals, sea turtles, or Atlantic sturgeon) are reported to the Lessor, NMFS, and the NMFS Northeast Regional Stranding Hotline (866-755-6622) within 24 hours of sighting, regardless of how the injury or death was caused. The Lessee, by itself or through its designated operator, must use the form provided as Enclosure 3 to report the sighting or incident. If the Lessee or operator's activity is responsible for the injury or death, the Lessee, by itself or through

its designated operator, must ensure that its vessel assists in any salvage effort as requested by NMFS. If possible, the Lessee, by itself or through its designated operator, must collect and preserve (refrigerate or freeze) any dead sea turtle or Atlantic sturgeon specimens until disposal procedures are discussed with NMFS.

#### 9.5 Reporting Observed Impacts to Protected Species.

9.5.1 The Lessee, by itself or through its designated operator, must report any observed takes of listed marine mammals, sea turtles or sturgeon resulting in injury or mortality within 24 hours to the Lessor and NMFS.

9.5.2 The Lessee, by itself or through its designated operator, must report any observations concerning any impacts on ESA-listed marine mammals, sea turtles, or Atlantic sturgeon to the Lessor and NMFS Northeast Region's Stranding Hotline (866-755-6622) within 48 hours.

9.5.3 The Lessee, by itself or through its designated operator, must record injuries or mortalities using the form provided as Enclosure 3.

9.6 Final Monitoring Report for WTG Construction and Observations. The Lessee, by itself or through its designated operator, must submit a final monitoring report to the Lessor and NMFS within 90 calendar days of completion of the pile driving and other construction activities. The report must document monitoring methods, monitoring protocols followed, summarize the data recorded during monitoring (including the results and analysis of the sound source field verification conducted during pile driving), estimate the number of listed marine mammals and sea turtles taken during construction activities, and interpret the results and effectiveness of all monitoring.

### **10. ADDITIONAL CONDITIONS FOR ESSENTIAL FISH HABITAT REPORTING AND CONSERVATION**

10.1 Foundation Monitoring Reports. The Lessee, by itself or through its designated operator, must provide the Lessor with a visual inspection report within 45 calendar days of each foundation inspection. The visual inspections will be carried out at 6-month intervals for the first year after the foundations are installed and at 12-month intervals thereafter, as described in Section 3.6.1 of the RAP. The visual inspection reports must describe the type and thickness of marine growth on each foundation and on the seabed within 5 m of each monopile, identified to the lowest taxonomic group possible.

10.2 Foundation Scour Monitoring Reports. The Lessee, by itself or through its designated operator, must provide the Lessor with a foundation scour monitoring report within 45 calendar days following each scour inspection. As described in Section 3.6.1 of the RAP, the initial scour inspection will be carried out within 6 months of commissioning, and subsequent inspections

will be carried out at intervals of 1, 2, 5, and 10 years after commissioning, or after a major storm event.

10.3 Inter-array and Export Cable Monitoring Reports. The Lessee, by itself or through its designated operator, must provide the Lessor with an inter-array and export cable monitoring report within 45 calendar days following each inter-array and export cable inspection described in Section 3.6.3 of the RAP, the initial inter-array and export cable inspection will be carried out at intervals of 6 months and 1 year after installation, and subsequent inspections will be carried out every 2 years or after a major storm event.

10.4 Cable Protection Measure Report. If the Lessee, by itself or through its designated operator, determines that cable protection measures are necessary, it must consider utilizing measures that minimize impacts to essential fish habitat (e.g., cable protection measures with the smallest footprint practicable) and reduce potential for interactions with fishing gear. Prior to selecting cable protection measures, the Lessee, by itself or through its designated operator, consult with the Lessor regarding the cable protection measures under consideration, including an explanation of the measures considered to reduce impacts to bottom habitat and fishing gear.

## **11. CONDITIONS RELATED TO NAVIGATIONAL SAFETY**

11.1 Pre-Construction Briefing. The Lessee, by itself or through its designated operator, must provide a pre-construction briefing to the Lessor and the USCG at least 120 calendar days prior to the commencement of any construction or installation activities. The briefing must include, at a minimum:

11.1.1 Weekly Schedule. A detailed weekly schedule on construction and installation activities from commencement to project operations;

11.1.2 Communication Capabilities. Capabilities to be maintained by the Lessee or its designated operator to communicate with the Lessor, USCG, and mariners in the vicinity of the WTGs;

11.1.3 Installation Monitoring. Capabilities to be maintained by the Lessee or its designated operator to continuously monitor its transportation, construction, installation and maintenance vessels, project related facilities as necessary, and the local marine traffic in the vicinity of the leased area; and

11.1.4 Mitigation. All planned mitigations to minimize any adverse impact to navigation while construction is ongoing.

11.2 Private Aids to Navigation. All WTGs shall be lit and marked in accordance with applicable USCG regulations. The Lessee, by itself or through its designated operator, must file



an application with the Commander (dpw), Fifth Coast Guard District, to establish private aids to navigation. The application must include lighting; marking and other signaling means, such as sound signals; Radar and beacons and/or Automated Information System (AIS) for each WTG; and approach, warning and temporary aids used. This approved private aid to navigation application must be provided to the Lessor prior to the construction or installation of any facilities.

11.3 Maintenance Schedule. The Lessee, by itself or through its designated operator, must submit to the Lessor and USCG a WTG maintenance schedule 30 days after construction is completed and on an annual basis thereafter. Modifications to the schedule must be provided to the Lessor and the USCG three weeks prior to implementing the changes.

11.4 Monthly Report. During construction, the Lessee, by itself or through its designated operator, must provide the Lessor and the USCG a monthly report, which must include, at a minimum:

11.4.1 Complaints. Any complaints (either written or oral) received from boaters, fishers, commercial vessel operators, or other mariners regarding alleged impacts to navigation safety caused by vessels or other equipment associated with the project;

11.4.2 Response to Complaints. Description of any remedial actions undertaken by the Lessee, by itself or through its designated operator, in response to complaints received; and

11.4.3 Current Construction Status. The current construction status of the project, including any changes to the construction schedule or process from what was described in the pre-construction briefing required in Section 11.1 and/or any previous monthly report.

11.5 Correspondence. Within 90 calendar days of receipt, the Lessee, by itself or through its designated operator, must submit to the USCG copies of any correspondence from other federal, state, or local agencies that relate to navigation safety.

11.6 Location Plat. No later than 7 calendar days after completing construction, the Lessee, by itself or through its designated operator, must submit a plat indicating the final cable route and WTG locations to the National Ocean Service, Nautical Data Branch, with a completed "Permit/Public Notice Completion Report." This submission is intended to give the Nautical Data Branch the information needed to add the turbines and cable route to the appropriate nautical charts. Presently, the Nautical Data Branch can be reached at 240-847-8102 or [ocs.ndb@noaa.gov](mailto:ocs.ndb@noaa.gov).

11.7 Mariner Information Sheets. The Lessee, by itself or through its designated operator, must provide mariner information sheets on its project website at least [30] days before construction is commenced. These sheets should include the location of the turbines, blade clearance above sea level, and other project specifications relevant to navigation.

11.8 Emergency Shutdown. The Lessee, by itself or through its designated operator, must ensure that the WTGs are equipped with control mechanisms that enable the control room operator to shut down either or both of the WTG rotors within two minutes of initiating shutdown procedures. The Lessee, by itself or through its designated operator, must immediately comply with any emergency shutdowns ordered by the USCG. The Lessee or its designated operator may resume operations only upon notification from the USCG.

11.9 Emergency Response Manual. The Lessee, by itself or through its designated operator, must ensure that the emergency response manual to address non-routine events, prepared pursuant to Section 6.2.5 of the Navigational Safety Risk Assessment provided as Appendix R of the RAP, includes, at a minimum:

11.9.1 Standard Operating Procedures. Method(s) for establishing and testing WTG rotor shutdown, notifying the USCG of mariners in distress and/or potential/actual search and rescue (SAR) incidents, notifying the USCG of any events or incidents that may impact maritime safety or security, and complying with a shutdown ordered by the USCG.

11.9.2 Staffing. Number of personnel intended to staff the control center; hours of operation; job qualification requirements; initial, on-the-job, and refresher training requirements.

11.9.3 Communications. Control center capabilities to communicate with the USCG and any mariners in the vicinity of the WTGs.

11.9.4 Monitoring. Measures the control center will implement to continuously maintain situational awareness at each of the WTGs during an emergency.

## **12. CONDITION RELATED TO ELECTROMAGNETIC EMISSIONS**

Prior to entry into any designated defense operating area, warning area, or water test area for the purpose of carrying out any activity under to the RAP, the Lessee, by itself or through its designated operator, must enter into an agreement with the commander of the appropriate command headquarters to coordinate the electromagnetic emissions associated with such activities. The Lessee, by itself or through its designated operator, must ensure that all electromagnetic emissions associated with such activities are controlled as directed by the commander of the appropriate command headquarters.

## **13. RESEARCH ACTIVITIES**

13.1 The Lessee, by itself or through its designated operator, must conduct research activities, and/or make its facilities available to conduct research activities, to the to the Lessor, its contractors, studies partners and, the National Renewable Energy Laboratory (NREL) in a

manner consistent with the goals set forth in Appendices K (SCOUR AND SEABED MOBILITY STUDIES), U (DATA MEASUREMENT AND TESTING PLAN), and V (PRELIMINARY DISSEMINATION PLAN) dated February 2014. BOEM may from time to time request, and the Lessee or its designated operator must timely provide, updates on the status of such research activities.

13.2 The Lessee, by itself or through its designated operator, must notify BOEM prior to the installation of any research-related devices within the project area, and when it receives a request from a third party for the installation of a research-related device.

13.3 The Lessee, by itself or through its designated operator, must make available to the public at no cost any data relating to the project that the Lessee or its designated operator would not otherwise designate as exempt from disclosure under Exemption 4 of the Freedom of Information Act (FOIA). The Lessor reserves the right to resolve any disputes regarding the confidentiality of data under the FOIA Exemption 4 standard

#### **14. MODIFICATIONS**

The Lessee, by itself or through its designated operator, may request a modification of a term in the RAP, RAPR, or these conditions of approval. The Lessor will review this request and determine whether the modification requires a revision to the relevant document under 30 CFR § 585.634. If the Lessor determines that the requested modification does not require a revision to the relevant document, the Lessor will provide a written response to the Lessee and its designated operator approving, approving with conditions, or disapproving the modification. This written response will become a part of the approved RAP.

## ENCLOSURE 1

### CONTACT INFORMATION FOR REPORTING REQUIREMENTS

The following contact information must be used for the reporting and coordination requirements specified in ADDENDUM “C”, Section 3 of the LEASE SPECIFIC TERMS AND STIPULATIONS:

United States Fleet Forces (USFF) N46  
1562 Mitscher Ave, Suite 250  
Norfolk, VA 23551  
(757) 836-6206

National Aeronautics and Space Administration  
Wallops Flight Facility  
34200 Fulton Street, Mail Stop 200  
Wallops Island, VA 23337  
(757) 824-2319

The following contact information must be used for the reporting requirements in Section 9 of the Conditions of Approval:

Marine Mammal Strandings  
NOAA's Northeast Marine Mammal Stranding Hotline  
Phone: (866) 755-NOAA (866-755-6622)

Sea Turtle Strandings  
Virginia Aquarium and Marine Science Center  
Phone: (757) 385-7575

Bureau of Ocean Energy Management  
Environment Branch for Renewable Energy  
Phone: 703-787-1340  
Email: renewable\_reporting@boem.gov

The most recent DMAs can be found at <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales> or through the Whale Alert app at <https://stellwagen.noaa.gov/protect/whalealert.html>

## ENCLOSURE 2

### REQUIRED DATA ELEMENTS FOR PROTECTED SPECIES OBSERVER REPORTS

The Lessee must ensure that the protected species observers record all observations of protected species using standard marine mammal observer data collection protocols. The list of required data elements for these reports is provided below:

- 1) Vessel name;
- 2) Observer names and affiliations;
- 3) Date;
- 4) Time and latitude/longitude when visual survey began;
- 5) Time and latitude/longitude when visual survey ended; and
- 6) Average environmental conditions during visual surveys including:
  - a) Wind speed and direction;
  - b) Sea state (glassy, slight, choppy, rough, or Beaufort scale);
  - c) Swell (low, medium, high, or swell height in meters); and
  - d) Overall visibility (poor, moderate, good);
- 7) Species (or identification to lowest possible taxonomic level);
- 8) Certainty of identification (sure, most likely, best guess);
- 9) Total number of animals;
- 10) Number of juveniles;
- 11) Description (as many distinguishing features as possible of each individual seen, including length, shape, color and pattern, scars or marks, shape and size of dorsal fin, shape of head, and blow characteristics);
- 12) Direction of animal's travel relative to the vessel (preferably accompanied by a drawing);
- 13) Behavior (as explicit and detailed as possible; note any observed changes in behavior);
- 14) Activity of vessel when sighting occurred.

**ENCLOSURE 3**

**Incident Report: Protected Species Injury or Mortality**

*Photographs/Video should be taken of all injured or dead animals.*

Observer's full name: \_\_\_\_\_

Reporter's full name: \_\_\_\_\_

Species Identification: \_\_\_\_\_

Name and type of platform: \_\_\_\_\_

Date animal observed: \_\_\_\_\_ Time animal observed: \_\_\_\_\_

Date animal collected: \_\_\_\_\_ Time animal collected: \_\_\_\_\_

Environmental conditions at time of observation (i.e. tidal stage, Beaufort Sea State, weather):

\_\_\_\_\_  
\_\_\_\_\_

Water temperature (°C) and depth (m/ft) at site: \_\_\_\_\_

Describe location of animal and events 24 hours leading up to, including and after, the incident (incl. vessel speeds, vessel activity and status of all sound source use): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Photograph/Video taken: YES / NO      If Yes, was the data provided to NMFS? YES / NO  
(Please label *species, date, geographic site* and *vessel name* when transmitting photo and/or video)

Date and Time reported to NMFS Stranding

Hotline: \_\_\_\_\_

**Sturgeon Information:** (please designate *cm/m or inches* and *kg or lbs*)

Species:

\_\_\_\_\_

Fork length (or total length): \_\_\_\_\_ Weight: \_\_\_\_\_

Condition of specimen/description of animal: \_\_\_\_\_

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Fish Decomposed: NO SLIGHTLY MODERATELY SEVERELY

Fish tagged: YES / NO If Yes, please record all tag numbers.

Tag #(s): \_\_\_\_\_

Genetic samples collected: YES / NO

Genetics samples transmitted to: \_\_\_\_\_ on \_\_\_\_ / \_\_\_\_ /20\_\_

**Sea Turtle Species Information:** (please designate cm/m or inches)

Species: \_\_\_\_\_ Weight (kg or lbs): \_\_\_\_\_

Sex: Male Female Unknown

How was sex determined?: \_\_\_\_\_

Straight carapace length: \_\_\_\_\_ Straight carapace width: \_\_\_\_\_

Curved carapace length: \_\_\_\_\_ Curved carapace width: \_\_\_\_\_

Plastron length: \_\_\_\_\_ Plastron width: \_\_\_\_\_

Tail length: \_\_\_\_\_ Head width: \_\_\_\_\_

Condition of specimen/description of animal: \_\_\_\_\_

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**Existing Flipper Tag Information**

Left: \_\_\_\_\_ Right: \_\_\_\_\_

PIT Tag#: \_\_\_\_\_

**Miscellaneous:**

Genetic biopsy collected: YES NO Photographs taken: YES NO

**Turtle Release Information:**

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

State: \_\_\_\_\_ County: \_\_\_\_\_

**Remarks:** (note if turtle was involved with tar or oil, gear or debris entanglement, wounds, or mutilations, propeller damage, papillomas, old tag locations, etc.) \_\_\_\_\_

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**Marine Mammal information:** *(please designate cm/m or ft/inches)*

Length of marine mammal (note direct or estimated): \_\_\_\_\_

Weight (if possible, kg lbs): \_\_\_\_\_

Sex of marine mammal (if possible): \_\_\_\_\_

How was sex determined?: \_\_\_\_\_

Confidence of Species Identification:                      SURE                      UNSURE                      BEST GUESS

Description of Identification characteristics of marine mammal: \_\_\_\_\_

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Genetic samples collected:                      YES / NO

Genetic samples transmitted to: \_\_\_\_\_ on \_\_\_\_ / \_\_\_\_ /20 \_\_\_\_

Fate of marine mammal: \_\_\_\_\_

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Description of Injuries Observed: \_\_\_\_\_

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Other Remarks/Drawings: \_\_\_\_\_

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