



**U.S. Environmental Protection Agency  
Region 2  
New York City, New York**

**CAA Permitting in New Jersey, New York, Puerto Rico, and  
the U.S. Virgin Islands**

**FACT SHEET**

**For an Outer Continental Shelf Air Permit  
to Construct and Operate  
Draft Permit**

**Ocean Wind, LLC  
Meteorological Buoys Project**

Date: August 23, 2018

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## I. Background

On April 26, 2018, Ocean Wind, LLC (Ocean Wind or the applicant) submitted an air permit application (the air permit application or application) pursuant to section 328 of the Clean Air Act (CAA or the Act), 42 U.S.C. § 7627, and 40 C.F.R. part 55 to the U.S. Environmental Protection Agency Region 2 office (EPA). In its application, Ocean Wind requested an Outer Continental Shelf (OCS) air permit (OCS air permit) for the construction (installation), operation, and decommissioning of two new, identical floating light detection and ranging (FLIDAR) data collection meteorological (met) buoys<sup>1</sup> (Ocean Wind Met Buoys Project, Met Buoys Project or Project) on the OCS within 25 miles<sup>2</sup> offshore of New Jersey. The purpose of the met buoys project is to evaluate the wind resources within a portion of Ocean Wind's OCS commercial lease area to determine the viability of locating a wind farm at that location. Subsequently, Ocean Wind submitted other documents on various dates to support its application. A copy of the application, along with all additional documents are included in the administrative record and available on the EPA Region 2 website at <https://www.epa.gov/publicnotices/draft-outer-continental-shelf-ocs-air-permit-construct-and-operate-ocean-wind-llc>. The application was deemed complete on July 16, 2018. After reviewing the application and additional documents, the EPA prepared the draft OCS air permit (or draft permit) for the Ocean Wind Met Buoys Project, which is subject to public notice and a 30-day public comment period. The EPA also developed this Fact Sheet, which explains the legal and factual basis for the draft permit conditions, as required by 40 C.F.R. part 124 ("Procedures for Decision Making"). As discussed elsewhere in this Fact Sheet, in processing this application, EPA has followed the administrative and public participation procedures of 40 C.F.R. part 124.

## II. General Information

### A. Applicant Information

The permit applicant is:

Ocean Wind, LLC  
 One International Place  
 100 Oliver Street, Suite 2610  
 Boston, MA 02110

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<sup>1</sup> The met buoys each utilize a Light Detection and Ranging (LIDAR) system; LIDAR is a surface-based remote sensing technology that operates via the transmission and detection of light. Ocean Wind has selected the AXIS Technologies Inc. (AXIS) WindSentinel™ FLIDAR as the meteorological and metocean data collection technologies for its met buoys.

<sup>2</sup> Section 328 of the CAA and 40 C.F.R part 55 do not specify whether these are statute miles or nautical miles. The Outer Continental Shelf Lands Act ("OCSLA") (43 U.S.C. § 1331 *et seq.*) refers to nautical or geographical miles. Thus, the 25 miles are considered nautical or geographical miles. One nautical or geographical mile is equal to 1.15 statute miles. For instance, 25 nautical miles are equal to 28.8 statute miles. As noted elsewhere in this Fact Sheet, Ocean Wind's two proposed FLIDAR met buoys are within 25 nautical miles (28.8 statute miles) offshore of New Jersey.

## B. Project Location

The proposed Met Buoys Project will be located within the Ocean Wind offshore wind farm lease area, as defined under the “OCS renewable energy assignment of interest in lease” issued by the Bureau of Ocean Energy Management (BOEM) to the applicant, identified as lease # OCS-A 0498.<sup>3</sup> The two met buoys will be located at the following OCS locations within Official Protraction Diagram Wilmington NJ 18-02, OCS Blocks 7081 and 6986:

- Meteorological Buoy 1: located in the OCS waters of the Atlantic Ocean, 39.070791° north latitude, and 74.44385° west longitude, at approximately 12.3 nautical miles<sup>4</sup> southeast of Strathmere, New Jersey.
- Meteorological Buoy 2: located in the OCS waters of the Atlantic Ocean, 39.134194° north latitude, and 74.167778° west longitude, at approximately 17.8 nautical miles<sup>5</sup> southeast of Atlantic City, New Jersey.

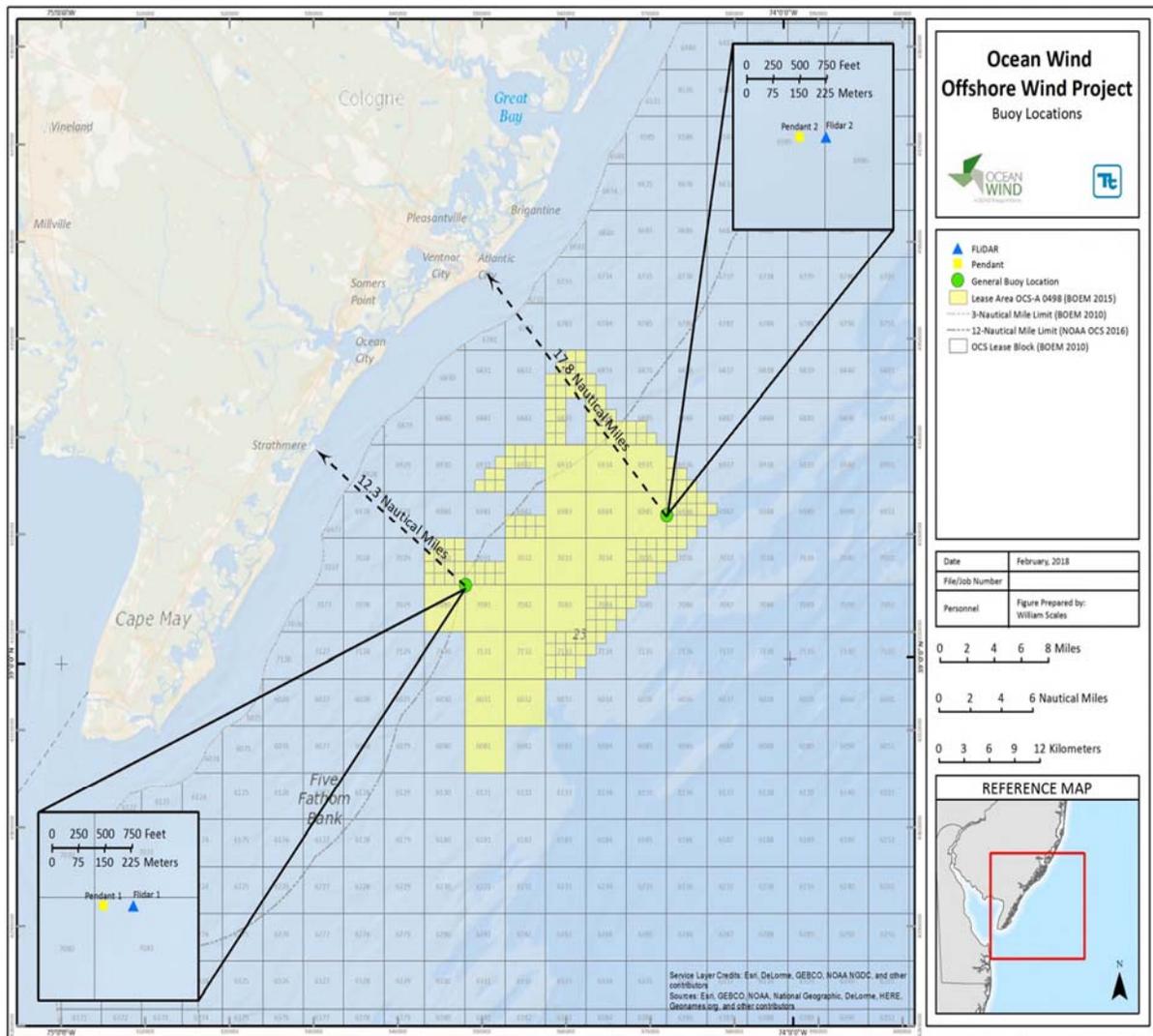
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<sup>3</sup> A copy of the Ocean Wind OCS lease # OCS-A 0498 may be found at <https://www.boem.gov/Assignment-Approval-Lease-OCS-A-0498/>.

<sup>4</sup> 12.3 nm equals to 14.15 statute miles.

<sup>5</sup> 17.8 nm equals to 20.47 statute miles.

**Figure 1.** This figure shows the location of the two proposed met buoys relative to the New Jersey coast, according to the Ocean Wind air permit application.



### III. OCS Statutory Requirements

Section 328(a) of the CAA, 42 U.S.C. § 7627(a), required the EPA to promulgate a rule establishing air pollution control requirements for OCS sources subject to the Outer Continental Shelf Lands Act (OCSLA) for all areas of the OCS, except those located in the Gulf of Mexico west of 87.5 degrees longitude (near the border of Florida and Alabama)<sup>6</sup>, in order to attain and maintain Federal and State ambient air quality standards and comply with the provisions of part

<sup>6</sup> Public Law 112-74, enacted on December 23, 2011, amended § 328(a) to add an additional exception from EPA regulation for OCS sources “located offshore of the North Slope Borough of the State of Alaska.”

C of title I of the Act.<sup>7</sup> To comply with this statutory mandate, on September 4, 1992, the EPA promulgated OCS air regulations at 40 C.F.R. part 55,<sup>8</sup> which regulated only federal and state criteria pollutants and precursors to those pollutants.<sup>9</sup> The covered OCS activity was primarily related to the exploration and recovery of oil and gas.

The Energy Policy Act of 2005, Pub. L. No. 109-58, amended the OCSLA to grant the Department of Interior's (DOI) Secretary the authority to issue leases, easements, or rights-of-way on the OCS for the purpose of renewable energy development, including wind energy development.<sup>10</sup> DOI delegated this authority to the former Minerals Management Service (MMS), now BOEM. On April 22, 2009, BOEM announced final regulations for the OCS Renewable Energy Program. These BOEM regulations, codified at 30 C.F.R. part 585, provide a framework for issuing leases, easements, and rights-of-way for OCS activities that support production and transmission of energy from sources other than oil and natural gas.

For met buoys and met towers projects associated with wind energy development (i.e., met buoys, met towers, and vessels used to construct, maintain, and decommission the buoys or towers), BOEM issues commercial leases and approves site assessment plans (SAPs) under OCSLA's authority. Thus, projects such as Ocean Wind's Met Buoys Project are authorized by OCSLA.

#### **IV. 40 C.F.R. part 55 – OCS Air Regulations**

Section 328(a) of the CAA requires that for such sources located within 25 miles of a State's seaward boundary, the requirements shall be the same as would be applicable if the sources were located in the corresponding onshore area (COA), which is typically the state geographically closest to the OCS source. Thus, pursuant to CAA § 328(a), the EPA established two different regulatory regimes in 40 C.F.R part 55: one for OCS sources located beyond 25 miles of a state's seaward boundary (outer OCS sources), and another for OCS sources located within 25 miles of a state's seaward boundary (inner OCS sources).

##### **A. OCS Source Requirements for Sources located beyond 25 miles of States' seaward boundaries**

Pursuant to 40 C.F.R. § 55.13, OCS sources located beyond 25 miles of a state's seaward boundaries are only required to comply with federal regulations. Such federal regulations include Prevention of Significant Deterioration (PSD) of Air Quality requirements (CAA title I, part C).<sup>11</sup> In addition, if rationally related to the attainment and maintenance of federal and state ambient air quality standards or the requirements of part C of title I of the CAA, these federal regulations may include New Source Performance Standards (NSPS) found at 40 C.F.R. part 60; National

<sup>7</sup> Part C of title I of the Act contains the Prevention of Significant Deterioration (PSD) of Air Quality requirements.

<sup>8</sup> See Outer Continental Shelf Air Regulations; Final Rule, 57 Fed. Reg. 40792 (Sept. 4, 1992) (finalizing OCS regulations at 40 C.F.R. part 55).

<sup>9</sup> Outer Continental Shelf Air Regulations; Proposed Rule, 56 Fed. Reg. 63774, 63786 (Dec. 5, 1991).

<sup>10</sup> See 43 U.S.C. § 1337(p)(1)(C).

<sup>11</sup> PSD requirements would apply to OCS sources that qualify as major stationary sources, or a major modification to an existing major stationary source, as these terms are defined in 40 C.F.R. § 52.21.

Emission Standards for Hazardous Air Pollutants (NESHAPs) found at 40 C.F.R. parts 61 and 63 pursuant to CAA § 112; and the title V operating program (found at 40 C.F.R. part 71).<sup>12</sup>

### **B. OCS Source Requirements for Sources located within 25 miles of States' seaward boundaries**

OCS sources located within 25 miles of a state's seaward boundary are required to comply with all federal requirements for outer OCS sources contained in 40 C.F.R. § 55.13<sup>13</sup> and with any applicable state and or local air emissions requirements in effect in the COA and which EPA has incorporated by reference in 40 C.F.R. part 55, Appendix A as applicable to inner OCS sources. In the event of conflict between the federal OCS source requirements contained at 40 C.F.R. § 55.13 and state/local OCS source requirements included by reference in Appendix A of 40 C.F.R. part 55, the more stringent requirement shall apply. *See* 40 C.F.R. § 55.14(a). Thus, the location of an inner OCS source determines its applicable OCS regulatory requirements, since the applicable state and/or local air emissions requirements will vary depending on an inner OCS source's COA.

### **C. OCS Source Monitoring, Reporting, Inspections, and Enforcement Requirements**

The OCS regulations at 40 C.F.R. §§ 55.8 and 55.9 provide that all CAA monitoring, reporting, inspection, compliance, and enforcement requirements apply to OCS sources. 40 C.F.R. § 55.8(a) provides that OCS sources shall also be subject to the monitoring, reporting, and inspection requirements of 40 C.F.R. §§ 55.13 and 55.14.

### **D. OCS Air Regulation Permitting Requirements**

Pursuant to 40 C.F.R. §§ 55.6(b), no OCS source to which federal requirements specified at 40 C.F.R. § 55.13 or state requirements specified at 40 C.F.R. § 55.14 apply shall begin actual construction without a permit. The Ocean Wind Met Buoys Project is such a source, an OCS source. Further, 40 C.F.R. §§ 55.6(a)(4) states that commencing operation of an OCS source subject to 40 C.F.R. part 55 prior to receiving approval shall constitute violation of 40 C.F.R. part 55.<sup>14</sup>

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<sup>12</sup> *See* 40 C.F.R. §§ 55.13(a), (c), (d)(2), (e), and (f)(2) (establishing that an outer OCS source would be subject to NSPS, NESHAP (40 C.F.R. part 61 & 63), and title V (40 C.F.R. part 71) requirements to the extent they are applicable to that outer OCS source).

<sup>13</sup> A certain inner OCS source would be subject to 40 C.F.R. § 52.21 and 40 C.F.R. part 60, 61, 63, and 71 requirements in the same manner as in the COA to the extent that these federal regulations are applicable to that inner OCS source. *See* 40 C.F.R. §§ 55.13(a), (c), (d)(1), (e), and (f)(1).

<sup>14</sup> “[A]ny owner or operator of a source subject to the requirements of this part who commences construction after the effective date of this part without applying for and receiving approval under this part, shall be in violation of this part.” 40 C.F.R. § 55.6(a)(4).

## E. Notice of Intent

For inner OCS sources, such as the proposed Ocean Wind Met Buoys Project, 40 C.F.R. § 55.4(a) requires applicants to submit a notice of intent (NOI)<sup>15</sup> to the appropriate EPA regional office and the state agency (or agencies) of the nearest onshore area (NOA)<sup>16</sup> and onshore areas adjacent to the NOA. The NOI must be submitted before performing any physical change or change in method of operation that results in an increase in emissions, but not more than 18 months prior to submitting an application for a preconstruction permit. Ocean Wind submitted an NOI on December 21, 2017, which was subsequently modified and resubmitted on February 21, 2018.

## F. Corresponding Onshore Area Designation

40 C.F.R. § 55.2 states that the “Corresponding Onshore Area (COA) means, with respect to any existing or proposed OCS source located within 25 miles of a State's seaward boundary, the onshore area that is geographically closest to the source or another onshore area that the Administrator designates as the COA, pursuant to §55.5 of this part.” One of the purposes of the NOI requirements of 40 C.F.R. part 55 is to allow an applicable state agency that believes it has more stringent air pollution control requirements than the NOA to submit a request that EPA designate it as the COA instead of a state agency of the NOA. However, the OCS regulations do not allow a COA redesignation for exploratory OCS sources.<sup>17</sup> As specified at 40 C.F.R. § 55.5(a), for proposed inner OCS exploratory sources, such as the proposed Met Buoys Project, “the NOA shall be the COA.” The NOA for the Met Buoys Project is the State of New Jersey (NJ). Consequently, the COA for the Met Buoys Project is the State of NJ, and the corresponding onshore requirements that would apply are the NJ air pollution control regulations found at NJ Administrative Code, Title 7, Chapter 27 and 27B (N.J.A.C 7:27 and 7:27B).

## G. Consistency Update

CAA section 328(a) requires that, for inner OCS sources, such as the Met Buoys Project, the applicable air requirements shall be the same as would be applicable if the sources were located in the COA. To comply with this statutory mandate, EPA must incorporate by reference into part 55 the applicable state rules for onshore sources.<sup>18</sup> To comply with this statutory mandate, the

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<sup>15</sup> Among other elements, the NOI must include an estimate of the proposed OCS source's emissions (in tons per year) of any air pollutant, information necessary to determine the applicability of onshore requirements, and information necessary to determine the source's impact on onshore areas. *See* 40 C.F.R. § 55.4(b).

<sup>16</sup> “*Nearest Onshore Area (NOA)* means, with respect to any existing or proposed OCS source, the onshore area that is geographically closest to that source.” 40 C.F.R. § 55.2.

<sup>17</sup> “*Exploratory source or exploratory OCS source* means any OCS source that is a temporary operation conducted for the sole purpose of gathering information. This includes an operation conducted during the exploratory phase to determine the characteristics of the reservoir and formation and may involve the extraction of oil and gas.” 40 C.F.R. § 55.2.

<sup>18</sup> The EPA has limited flexibility in deciding which requirements will be incorporated into 40 C.F.R. part 55 and cannot make substantive changes to the requirements it incorporates. As a result, EPA may be incorporating rules into 40 C.F.R. part 55 that do not conform to all of EPA's state implementation plan (SIP) guidance or certain requirements of the CAA. Inclusion in the OCS rule does not imply that a rule meets the requirements of the CAA for SIP approval, nor does it imply that the rule will be approved by EPA for inclusion in the SIP.

EPA must incorporate by reference into part 55 the applicable state rules for onshore sources.<sup>19</sup> Because the requirements for the inner OCS sources are based on onshore requirements, and onshore requirements may change, CAA § 328(a)(1) requires that EPA update the OCS requirements as necessary to maintain consistency with onshore requirements. The COA for the proposed Met Buoys Project is the State of NJ. Therefore, on June 27, 2018<sup>20</sup> the EPA updated the “New Jersey” section of Appendix A to 40 C.F.R. part 55 to incorporate by reference the relevant NJ air pollution control rules that are currently in effect, and, thus, applicable to OCS sources.<sup>21</sup>

## H. Administrative Procedures and Public Participation

40 C.F.R. § 55.6(a)(3) requires the EPA to follow the applicable administrative and public participation procedures of 40 C.F.R. part 71, or the applicable procedures of 40 C.F.R. part 124 used to issue PSD permits, when processing OCS permit applications under 40 C.F.R. part 55. In processing the Ocean Wind air permit application for the Met Buoys Project, the EPA has elected to follow the applicable administrative PSD procedures of 40 C.F.R. part 124 which, among other things, requires public notice of permit actions, a public comment period, and the preparation of a Fact Sheet.<sup>22</sup>

## I. OCS Air Regulations and Delegation of Authority

Pursuant to CAA § 328 (a)(3) and 40 C.F.R. § 55.11(a), States adjacent to OCS sources subject to the requirements of 40 C.F.R. part 55 may submit a request to the EPA for the authority to implement and enforce the OCS air emission requirements for those OCS sources.<sup>23</sup> If there is no delegated agency in the COA for sources located within 25 miles of a State’s seaward boundary, the EPA will permit, implement and enforce the 40 C.F.R. part 55 requirements.<sup>24</sup> Such is the case for the Met Buoys Project.

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<sup>19</sup> 40 C.F.R. § 55.12 specifies certain times at which part 55’s incorporation by reference of a state’s rules must be updated. One time a consistency update must occur is when any OCS source applicant submits a NOI under 40 C.F.R. § 55.4 for a new or modified OCS source. The OCS source applicant cannot then submit an application for a preconstruction permit EPA until EPA proposes any necessary consistency update. 40 C.F.R. §§ 55.6(b)(2) and 55.12(f).

<sup>20</sup> See 83 Fed. Reg. 30050, June 27, 2018 “Outer Continental Shelf Air Regulations Update to Include New Jersey State Requirements.”

<sup>21</sup> EPA evaluated the proposed regulations to ensure that they are rationally related to the attainment or maintenance of Federal or state ambient air quality standards (AAQS) or part C of title I of the Act, that they are not designed expressly to prevent exploration and development of the OCS, and that they are applicable to OCS sources. See 40 C.F.R. § 55.1. The EPA also evaluated the rules to ensure they are not arbitrary and capricious. 40 C.F.R. § 55.12(e). The EPA excluded New Jersey’s administrative or procedural rules, and requirements that regulate toxics which are not related to the attainment and maintenance of Federal and State AAQS.

<sup>22</sup> See 40 C.F.R. §§ 124.10, 124.4 & 124.8.

<sup>23</sup> The OCS delegation authority will only be delegated to a state if the EPA determines that the state provisions are adequate, based on specific criteria. See 40 C.F.R. § 55.11(b). The authority to implement and enforce §§ 55.5, 55.11, and 55.12 will not be delegated. *Id.*

<sup>24</sup> See 40 C.F.R. § 55.11(j).

## V. Air Quality in the COA

As noted elsewhere in this Fact Sheet, the COA for the Met Buoys Project is the State of NJ, and, thus the project must comply with the NJ air pollution control rules included in Appendix A of 40 C.F.R. part 55. The entire State of NJ, including the two counties in NJ nearest to the project location (Atlantic and Cape May counties), is currently designated as attainment or unclassifiable for sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) carbon monoxide (CO), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>). However, the entire State (including the two nearest counties) is designated as non-attainment for ozone (O<sub>3</sub>).<sup>25</sup>

## VI. Project Description

### A. General Description

Ocean Wind will install and operate the two identical met buoys on the OCS within 25 miles offshore of NJ to collect actual wind speed and direction data as well as other meteorological data at multiple heights for a duration of up to two years, to determine the viability of locating a wind turbines project at that OCS location. At the end of their operational life (i.e., after up to two years of operation) the two met buoys will be decommissioned and their sites will be cleared.<sup>26</sup> The proposed Met Buoys Project is comprised of the installation, operation and maintenance, and decommissioning phases.

### B. Met Buoys Description

Each met buoy will consist of instrumentation and supporting systems atop a floating moored buoy platform. *See* Figure 2. The floating platform consists of an AXYS Navy Oceanographic Meteorological Automated Device hull, mooring chain, clump weight anchor and pendant marker buoy. The hull measures 20.7 feet (ft) long by 10.5 ft wide and its bare hull weight is 15,000 pounds (lb). The vertical profile of each buoy, including instrumentation, will be approximately 13.5 ft from the sea surface to the top of the hull mast. The submerged portion of the hull would measure approximately 8.5 ft below the sea surface from the water line to the bottom of the mooring yoke. The outer hull is constructed of a corrosion resistant marine grade stainless steel. The instrumentation and lighting on each buoy will be powered by an array of 40x100-ampere hour lead acid batteries, primarily charged by a hybrid wind-solar system. Each buoy will be equipped with a 10-kilowatt (kW)<sup>27</sup> diesel generator engine as a secondary or

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<sup>25</sup>For more information on the COA attainment/non-attainment status please visit the New Jersey Department of Environmental Protection Bureau of Evaluation and Planning's website at <http://www.nj.gov/dep/baqp/aas.html>.

<sup>26</sup> Section 13: Removal of Property and Restoration of the Lease Area on Termination of the Lease (for the Site Assessment activities) of Ocean Wind's OCS Commercial Lease (OCS-A 0498) states that Ocean Wind must remove everything when its purpose is concluded. Also, 30 C.F.R. § 585.902 lists the requirements for decommissioning authorized under a SAP, which is to remove the met buoys from the site.

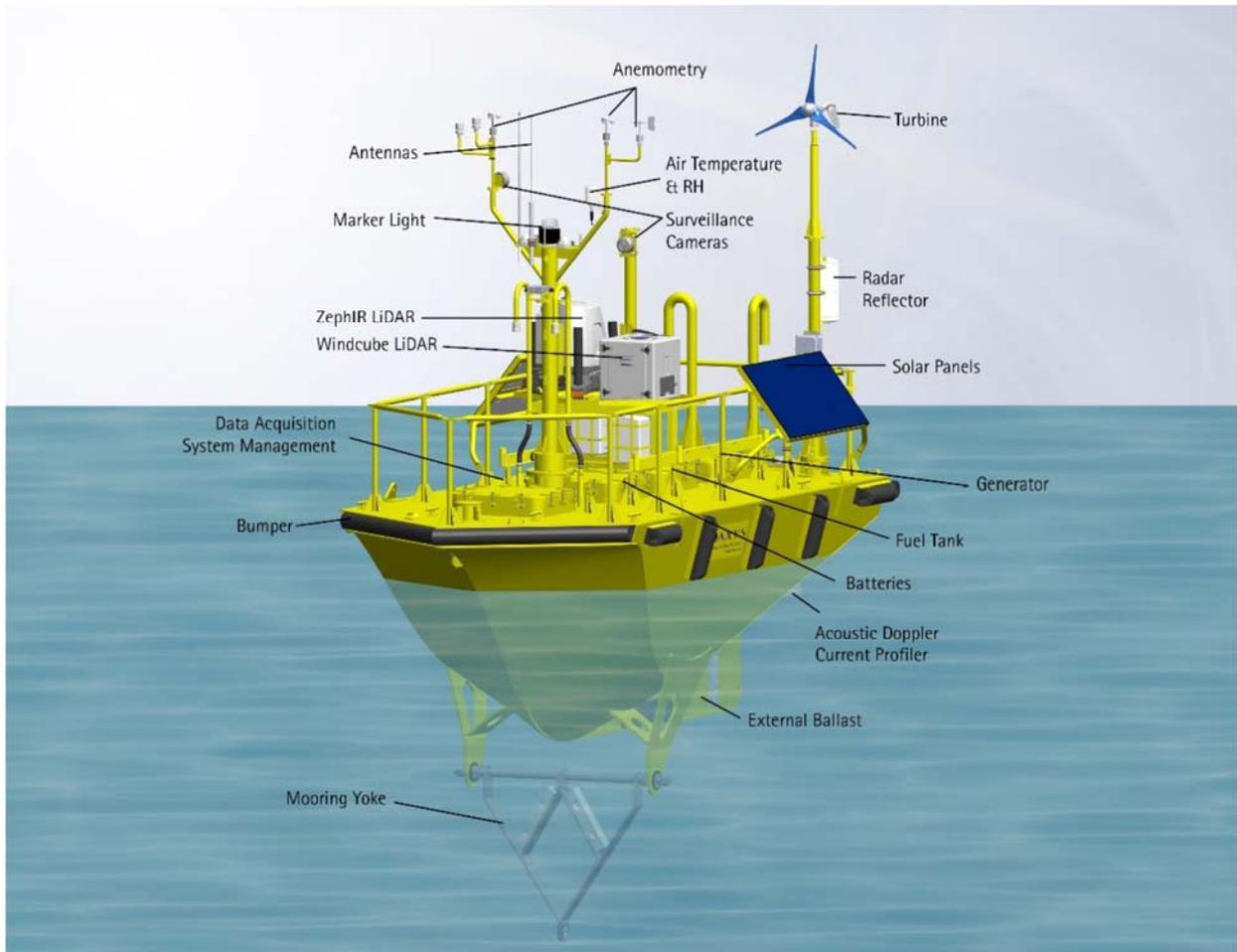
<sup>27</sup> In its air permit application Ocean Wind stated that each met buoy will be equipped with a 10-kW diesel engine which will be subsequently de-rated at 3.5 kW. engine. However, based on EPA review the mechanism proposed by Ocean Wind to reduce the power output (kW) of the engines does not constitute a de-rate. Thus, Ocean Wind agreed that, for the purpose of this permitting action, the met buoys engines will be treated as 10-kW engines.

backup battery charging source.<sup>28</sup> Also, each met buoy will be equipped with a 238-gallon diesel fuel storage tank. The instrumentation of each met buoy will record the status of buoy operation, including the operating hours of the diesel generator on the buoy, and the actual data collected by each buoy (i.e., wind speed and direction, meteorological ocean data). The information recorded by the met buoys' instrumentation will be transmitted from the buoys to shore via 2-way satellite communication channels.

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<sup>28</sup> In the event that the renewable power sources fail to keep the batteries adequately charged (e.g., extended heavy cloud cover with little wind), the power monitoring system would prompt the operation of the onboard diesel-fueled generator.

Figure 2 – FLIDAR Buoy diagram included in the Ocean Wind air permit application.



### C. Met Buoys Mooring Design Description

The met buoys will be attached to the seafloor by means of a u-mooring design which is comprised of a chain that connects the buoys to both a primary and secondary clump anchor on the sea floor, as well as a pendant buoy on the surface of the water. *See* Figure 3. The primary and secondary clump weights would weigh approximately 5.5 tons and 3.3 tons, respectively, and would take up an area of the seabed of up to 42 square feet (ft<sup>2</sup>). The chain would be attached to the base of the hull via the steel mooring yoke. The area of the anchor chain sweep associated with the long-term operation of the met buoys is anticipated to be approximately 3.1 acres for FLIDAR 1 and 2.6 acres for FLIDAR 2. Vertical penetration of the primary and secondary clump weights into the seabed is anticipated to be approximately 6.6 to 9.9 ft and 3.3 to 6.6 ft, respectively.

Figure 3 – FLIDAR Buoy Mooring Design diagram included in the Ocean Wind air permit application.

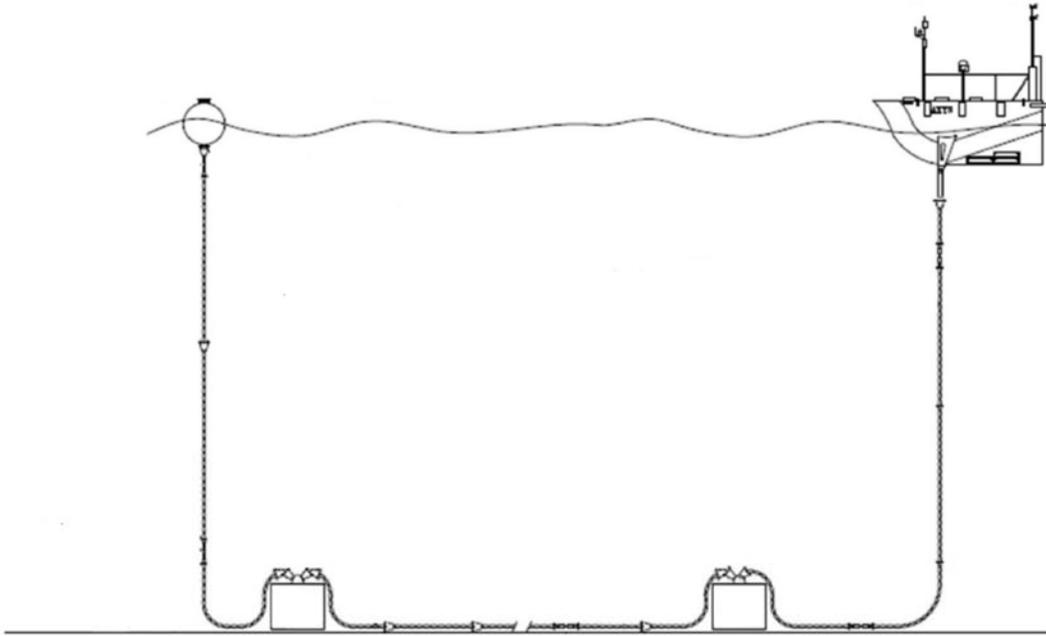


Figure 3. WindSentinel™ FLIDAR U-Mooring Design

#### D. Met Buoys Project Phases Description

The following is a description of the proposed Met Buoys Project phases: (1) installation; (2) operation and maintenance; and (3) decommissioning.

##### 1. Installation of Met Buoys

The installation of each one of the two met buoys will require the use of a workboat and a support vessel, which will each make separate round trips from Avalon, NJ to each met buoy location. The round-trip to the first buoy (FLIDAR 1) will take an estimated 3 hours total transit time for each vessel. The round-trip to the second buoy (FLIDAR 2) will take an estimated 4.5 hours total transit time for each vessel. Once at a met buoy site, the workboat and support vessel will each spend about 12 hours at the buoy location to install the met buoy. The workboat vessel will be equipped with construction equipment and will be used to (1) transport each buoy from an onshore location (Avalon, NJ) to its OCS location, either carried on the workboat's deck or towed behind; and (2) install each buoy and its mooring system at its OCS location. The support vessel will accompany and assist the workboat vessel during the installation of the met buoys. Neither vessel will attach to the seabed or an OCS facility at any point.

## 2. Operation and maintenance of Met Buoys

### a) Operation

The operational life of each met buoy will last for up to 2 years. Each met buoy will be equipped with a Yanmar 2TNV70, Model year 2011, naturally-aspirated, 4-stroke, 2-cylinder (cyl), 0.29 Liters/cyl, 10-kW (13.4 horsepower (HP) and 0.13 million British thermal units per hour (MMBTU/hr)) diesel-fueled generator engine, which will be used as a backup power source for the met buoys' instrumentation. Ocean Wind proposes to limit each of the met buoys' engines to 500 operating hours per year (hr/yr), and monitor and record the actual operating hours of the two engines through the met buoys' instrumentation.<sup>29</sup> The characteristics of the met buoys engines and the type of fuel combusted are presented in Table 1 of this Fact Sheet.

### b) Maintenance

Maintenance of each of the two met buoys will include a one-time annual inspection and quarterly maintenance activities.

#### o One-time Annual Inspection

An annual inspection of each of the two met buoys will occur only once, one year after the installation of the met buoys. During the annual inspection, each buoy and its entire mooring system will be retrieved from their OCS location and transported to shore for maintenance and repair activities.<sup>30</sup> The serviced met buoy will then be transported back to and (re)installed on its original location on the OCS. While onshore, the buoy's diesel fuel tank will be refilled. The one-time annual inspection of each met buoy will require the use of a workboat and a support vessel sent from Avalon, NJ to each met buoy location. Vessel travel times will be the same as for installation. Once at the site of each met buoy, the workboat and the support vessel will spend about 12 hours per buoy location retrieving or re-installing the met buoy. Accompanied by the support vessel, the workboat vessel will be equipped with construction equipment to (1) retrieve and transport the buoy's and their mooring systems from their OCS locations to the onshore location (Avalon, NJ); (2) transport the serviced met buoys back to their OCS locations; and (3) re-install the buoys at their original OCS locations. Neither vessel will attach to the seabed or an OCS facility at any point.

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<sup>29</sup> As stated in the application and elsewhere in this Fact Sheet, this information will be transmitted from the buoys to shore via 2-way satellite communication channels.

<sup>30</sup> The detailed steps for recovery and redeployment of each buoy and mooring system are identical to those that will be followed during installation and decommissioning activities for the two FLIDAR buoys. Inspection of the mooring system will be completed on the workboat deck as the FLIDAR buoy is being towed back to port. Any items requiring service or replacement will be flagged to be addressed prior to the redeployment operation. The one-time annual maintenance tasks to be performed while at port include: (1) removal of biofouling from the buoy using an on-dock pressure washer, as well as hand tools such as scrapers; and (2) refilling of the 238-gallon diesel fuel tank located on each FLIDAR buoy. This fuel storage capacity is sufficient to allow operation of each FLIDAR generator engine for more than one year, given the proposed limitation of 500 operating hours per year. *See* application page 11.

### ○ Quarterly Maintenance Activities

In addition to the one-time annual inspection, the facility will conduct maintenance activities every 3 months for each of the two met buoys during their up to 2-year operational life. During each quarterly maintenance, a single support vessel will be sent from Avalon, NJ (and return), taking an estimated 5 hours total transit time round-trip. The vessel will also perform a 5-hour maintenance<sup>31</sup> at each met buoy location. The support vessel will pull alongside each met buoy to allow transfer of personnel and tools from the support vessel to the buoy, and will either (1) use its main (propulsion) engines to hold position; or (2) attach itself to the met buoy, in which case the support vessel's engines will be turned off. During this time, all of the support vessel's power needs will be provided by its battery. The vessel will not attach to the seabed at any point. There will be three quarterly maintenance activities events (for the two buoys combined) during each of the Met Buoys Project's up-to-two-year operation.

### 3. Decommissioning of Met buoys

After up to 2 years of operation, the met buoys will be decommissioned (removed) from their OCS locations. The decommissioning of each of the two met buoys will involve the use of the same vessels and same activities as the installation phase, but with the activities performed in reverse.

### E. Summary Table – The Characteristics, Functions, and Fuel Types for Workboat, Support Vessel, and Met Buoy Engines

Ocean Wind anticipates using the following types of workboat and support vessels:

- The workboat vessel will be a NorthStar Commander multi-purpose offshore utility vessel<sup>32</sup> that will be equipped with the following construction equipment: a 75-ton tow winch, 3.75-ton knuckle boom<sup>33</sup> crane, and A-frame.<sup>34</sup>
- The support vessel will be a NorthStar Enterprise workboat.

The workboat and support vessels, and met buoys engines' characteristics (size, model year), function, and type of fuel are presented in Table 1 below:

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<sup>31</sup> Planned quarterly maintenance activities for the two FLIDAR buoys will be limited to above-surface buoy components, and will include replacement of consumables, service of sensors, data retrieval, and cleaning of solar panels and wind turbines. *See* application page 12.

<sup>32</sup> Based on the NorthStar Commander specifications, this vessel is 92 ft long and is capable of performing a wide variety of duties such as towing, salvage, marine construction, oil-spill response work, in-shore supply work and supporting a wide array of scientific and research projects.

<sup>33</sup> A knuckle boom crane appears similar to a standard crane, except that the boom articulates at the "knuckle" near the middle, letting it fold back like a finger. This provides a compact size for storage and maneuvering.

<sup>34</sup> A-frames are designed to perform a broad range of operations, such as offshore load handling, subsea load handling (anchor handling) and the launch and recovery of special tools and equipment.

**Table 1 – Workboat, Support Vessel, and Met Buoy Engines’ Characteristics (Size, Model Year), Function, and Fuel Type**

Engine Make/Model	Model Year	Maximum Rated Power (HP / kW)	Function/ Purpose	Fuel Type
<b>Workboat Vessel</b>				
Volvo D12D-G MH <sup>1,5</sup>	2008	450/336	Workboat vessel – marine propulsion engine	Ultra-Low Sulfur Diesel Fuel (ULSD)
Volvo D12D-G MH <sup>1,5</sup>	2008	450/336	Workboat vessel – marine propulsion engine	ULSD
John Deere 4045TF <sup>2,6</sup>	2015	87/65	Workboat vessel – auxiliary generator engine	ULSD
Caterpillar <sup>1,3,7</sup> model unknown	2010	87/65	Workboat vessel – auxiliary generator engine (backup)	ULSD
Detroit 4-53 Series 53 <sup>4,8</sup>	Pre 2007	120/90 (0.84 MMBTU/hr)	Deck engine, diesel-fueled, onboard workboat vessel – to supply hydraulic power for the construction equipment located onboard workboat vessel (tow winch, crane, and A-frame)	ULSD
<b>Support Vessel</b>				
Volvo D9 <sup>1,9</sup>	2013	425/318	Support vessel – marine propulsion engine	ULSD
Volvo D9 <sup>1,9</sup>	2013	425/318	Support vessel – marine propulsion engine	ULSD
<b>Met Buoys Engines</b>				
Yanmar 2TNV70 <sup>10</sup>	2011	13.4/10 (0.13 MMBTU/hr)	FLIDAR 1 met buoy – diesel generator engine	ULSD
Yanmar 2TNV70 <sup>10</sup>	2011	13.4/10 (0.13 MMBTU/hr)	FLIDAR 2 met buoy – diesel generator engine	ULSD

<sup>1</sup>In the application, it is anticipated that the two Volvo D12D-G MH propulsion engines, the Caterpillar auxiliary generator, and the two Volvo D9 propulsion engines would be Category 1, Tier 2 marine engines as defined in 40 C.F.R. part 94.

<sup>2</sup>In the application, it is anticipated that the John Deere 4045TF auxiliary generator would be a Category 1, Tier 3 marine engine as defined in 40 C.F.R. part 1042.

<sup>3</sup> As presented in the application, although there are two 65 kW auxiliary generator engines listed for the workboat vessel, John Deere 4045TF and Caterpillar, there will be only one auxiliary generator engine operational at any given time. The workboat's second auxiliary generator engine will serve as backup.

<sup>4</sup>Based on the application, the model year for the Detroit 4-53 Series 53 deck engine is unknown; the support vessel owner indicated that the engine is certified for land-based use. Thus, for the estimation of the emissions generated by this engine, the facility has, conservatively, presumed that the engine is a pre-2007 model year engine as defined in 40 C.F.R. 60 subpart IIII.

<sup>5</sup> Based on the application, the air emissions resulting from each of the two Volvo D12D-GMH propulsion engines of the workboat vessel will be exhausted through individual stacks with an approximate height of 25 ft above the water surface.

<sup>6</sup>Based on the application, the air emissions resulting from the John Deere 4045TF auxiliary generator engine of the of the workboat vessel will be exhausted through the same stacks as the two Volvo D12D-GMH propulsion engines.

<sup>7</sup>Based on the application, the air emissions resulting from the Caterpillar auxiliary generator engine of the of the workboat vessel will be exhausted through the same stacks as the two Volvo D12D-GMH propulsion engines.

<sup>8</sup>Based on the application, the air emissions resulting from the Detroit 4-53 Series 53 deck engine onboard of the workboat vessel will be exhausted through an individual stack with an approximate height of 18 ft above the working vessel deck.

<sup>9</sup>Based on the application, the air emissions resulting from each of the two Volvo D9 propulsion engines of the support vessel will be exhausted through the exhaust points at the water level; there are no stacks for these two engines.

<sup>10</sup>Based on the application, the air emissions resulting from each of the two Yanmar diesel generator engines onboard met buoys will be exhausted through the exhaust pipes that will be routed to exit just below the water surface.

## **F. Met Buoys Project - Air Pollutants and Emission Sources**

Air pollutant emissions generated by the proposed Met Buoys Project include nitrogen oxides (NO<sub>x</sub>), CO, SO<sub>2</sub>, particulate matter (PM), PM<sub>10</sub>, PM<sub>2.5</sub>, volatile organic compounds (VOC), greenhouse gases (GHG), and hazardous air pollutants (HAPs), including lead (Pb).

Emissions of air pollutants for the Met Buoys Project are associated with the combustion of diesel fuel in (1) the workboat vessels' main engines; (2) the workboat vessels' auxiliary engines and the deck engine which powers the construction equipment on board the workboat vessels; (3) the support vessels' main engines; and (4) the backup engines on the met buoys. See Table 1 of this Fact Sheet for a list of the engines associated with the Met Buoys Project. In addition, a very small amount of fugitive VOC emissions<sup>35</sup> may result from evaporation of the diesel fuel stored in the two 238-gallon storage tanks onboard the met buoys. Because of the very low level of VOC emissions that may result from such evaporation, and the fact that there are no 40 C.F.R. part 55 requirements applicable to the two storage tanks, these emissions were not quantified in the application. The emissions of pollutants associated with the Met Buoys Project are summarized in Table 2 of this Fact Sheet.

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<sup>35</sup> "Fugitive emissions" means any emissions of an air contaminant released directly or indirectly into the atmosphere which do not pass through a stack or chimney. See N.J.A.C 7:27-16 ("Control and Prohibition of Air Pollution by Volatile Organic Compounds").

## VII. Applicability of 40 C.F.R. Part 55 OCS Air Regulations Requirements to the Ocean Wind Met Buoys Project

### A. What is an OCS Source?

Under CAA § 328(a)(4)(C) and 40 C.F.R. § 55.2, an OCS source includes any equipment, activity, or facility which:

- (1) Emits or has the potential to emit any air pollutant;
- (2) Is regulated or authorized under the OCSLA (43 U.S.C. § 1331 *et seq.*); and
- (3) Is located on the OCS or in or on waters above the OCS.

Further, CAA § 328(a)(4)(C) adds that “[s]uch activities include, but are not limited to, platform and drill ship exploration, construction, development, production, processing, and transportation.”

Under 40 C.F.R. § 55.2, “[o]uter continental shelf” shall have the meaning provided by section 2 of the OCSLA (43 U.S.C. § 1331 *et seq.*), which in turn defines “outer continental shelf” as “all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in section 1301 of this title, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.”

40 C.F.R. § 55.2 establishes that the OCS source definition shall include vessels that are:

- (1) Permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources there from, within the meaning of section 4(a)(1) of OCSLA (43 U.S.C. §1331 *et seq.*); or
- (2) Physically attached to an OCS facility, in which case only the stationary source aspects of the vessels will be regulated.<sup>36</sup>

Once a facility, vessel, equipment, or activity is considered an OCS source, then the emissions sources of that OCS source become subject to the requirements of 40 C.F.R part 55, which include: (1) obtaining an OCS air permit, as required by 40 C.F.R. § 55.6(b); (2) complying with the applicable federal regulations requirements specified at 40 C.F.R. § 55.13; (3) for inner OCS sources, complying with the COA’s state or local air emissions requirements specified under 40 C.F.R. § 55.14; and (4) monitoring, reporting, inspection and enforcement requirements specified at 40 C.F.R. §§ 55.8 and 55.9.

Under 40 C.F.R. § 55.2, “[n]ew source or new OCS source” shall have the meaning given in the applicable requirements of 40 C.F.R. §§ 55.13 and 55.14.

### B. OCS Source Status of the Ocean Wind Met Buoys and Vessels

In the case of the Met Buoys Project, the two met buoys will constitute a new OCS source under the above definitions because they meet all three OCS source criteria. Consequently, the two

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<sup>36</sup> See Outer Continental Shelf Air Regulations; Final Rule, 57 Fed. Reg. 40792, at 40793-94 (Sept. 4, 1992) (finalizing part 55).

diesel-fueled generator engines onboard the met buoys will be subject to the applicable requirements of 40 C.F.R. part 55.

As presented in the air permit application, once the workboat and support vessels are at the met buoys' OCS location(s); they will use their main (propulsion) engines to hold position during installation, one-time annual inspection, quarterly maintenance, and decommissioning activities for the met buoys, and will not attach to the seabed. Also, based on the air permit application, EPA understands that there will be no device (i.e., item of construction equipment) located onboard the workboat or support vessels that will attach to the seabed during installation, annual inspection, quarterly maintenance or decommissioning of the met buoys. According to the air permit application, the workboat and support vessels will also not attach to the met buoys during the installation, one-time annual inspection, and decommission of the met buoys. Pursuant to the OCS source definition criteria specific to vessels in 40 C.F.R. 55.2 described above, during these times the workboat and support vessels will neither be "[p]ermanently or temporarily attached to the seabed" nor "[p]hysically attached to an OCS facility." These vessels would not constitute OCS sources during the installation, one-time annual inspection, and decommission of the met buoys.

However, based on the application, the support vessel could attach itself to the met buoys during the quarterly maintenance activities. In such instances when the support vessel physically attaches to an OCS facility, it would be an OCS source. Pursuant to 40 C.F.R. § 55.2, in the circumstance in which a vessel is considered an OCS source due to physical attachment to an OCS facility, "only the stationary source aspects of the vessels will be regulated." The support vessel's main (propulsion) engines (which are the only engines on the support vessels) will not be operated during the time in which the vessel is attached to the met buoys. Rather, during its attachment to the met buoys, the power needs of the support vessel will be supplied by battery and the support vessel will have no emissions. Other than refraining from engine operation, no 40 C.F.R. part 55 requirements will be applicable to the support vessel while it is an OCS source.

### **C. Definition of the OCS Source Potential Emissions**

Under 40 C.F.R. § 55.2, the potential emissions (or potential to emit or PTE) of an OCS source is defined as follows:

*"Potential emissions* means the maximum emissions of a pollutant from an OCS source operating at its design capacity. Any physical or operational limitation on the capacity of a source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as a limit on the design capacity of the source if the limitation is federally enforceable. Pursuant to section 328 of the Act, emissions from vessels servicing or associated with an OCS source shall be considered direct emissions from such a source while at the source, and while enroute to or from the source when within 25 miles of the source, and shall be included in the 'potential to emit' for an OCS source. This definition does not alter or affect the use of this term for any other purposes under §§55.13 or 55.14 of this part, except that vessel emissions must be included in the 'potential to emit' as used in §§55.13 and 55.14 of this part."

Thus, pursuant to 40 C.F.R § 55.2, the PTE for an OCS source includes two categories of emissions: (1) emissions from an OCS source operating; and (2) emissions from all vessels servicing or associated with an OCS source while at the source, and while enroute to and from the source when within 25 miles of the OCS source.

## **D. Potential to Emit of the Ocean Wind Met Buoys Project**

### **1. Potential to Emit Summary Table**

The PTE of the Met Buoys Project includes:

- (1) emissions from the OCS source (i.e. the emission from the two diesel-fueled generator engines onboard the met buoys); and
- (2) emissions from the workboat and support vessels when (a) at the buoys' OCS locations during the installation, one-time annual inspection, quarterly maintenance and decommissioning activities and (b) while enroute to or from the OCS sources (met buoys) when within 25 miles of the source.

As shown in Table 2, the estimated PTE from the air permit application for the Met Buoys Project is very low for any pollutant that may result from the project. The pollutants in Table 2 include "criteria pollutants"<sup>37</sup> for which EPA has set National Ambient Air Quality Standards (NAAQS), other pollutants regulated under the New Source Review (NSR) program as criteria pollutant precursors or otherwise, and pollutants that may trigger the title V permitting requirements.<sup>38</sup>

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<sup>37</sup> For more information on criteria pollutants, see the list of criteria pollutants available at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>; see also <https://www.epa.gov/criteria-air-pollutants#self>.

<sup>38</sup> Note that based on the current EPA policy, a stationary source cannot be required to obtain a PSD/NNSR or title V permit solely because of the GHG PTE above the major source thresholds. See, e.g., Memorandum from Janet G. McCabe, "Next Steps and Preliminary Views on the Application of Clean Air Act Permitting Programs to Greenhouse Gases Following the Supreme Court's Decision in *Utility Air Regulatory Group v. Environmental Protection Agency*" (July 24, 2014), available at <https://www.epa.gov/sites/production/files/2015-12/documents/20140724memo.pdf>.

Table 2 - Potential to Emit of Ocean Wind Proposed Met Buoys Project, in tons per year (tpy)

Emission Source	NO <sub>x</sub>	CO	VOC	PM/ PM <sub>10</sub> and PM <sub>2.5</sub>	SO <sub>2</sub>	Lead	Total HAPs	GHG (CO <sub>2</sub> e)
Met Buoys Project total emissions for 1 <sup>st</sup> year of operations*	0.90	0.53	0.04	0.03	24.2E-05	4.25E-06	0.004	69
Met Buoys Project total emissions for 2 <sup>nd</sup> year of operations**	0.44	0.27	0.02	0.01	15.7E-05	1.85E-06	0.002	46

\*Total PTE for the first of the two years of Met Buoys Project operation represents the worst case annual emissions because it includes the emissions from installation, one-time annual inspection, three quarterly maintenance events, and the two engines onboard the met buoys.

\*\*Total PTE for the second of the two years of Met Buoys Project operation includes the sum of the emissions resulting from three quarterly maintenance events, the two engines onboard the met buoys, and decommissioning.

There are two major NSR permitting programs, Nonattainment NSR (NNSR) and PSD, which could potentially apply to OCS sources located within 25 miles of the New Jersey shore, such as the Met Buoys Project. These regulations apply only to new major sources or major modifications to existing major sources located in areas not attaining and attaining, respectively, the applicable NAAQS. A new source (here, the Met Buoys Project) must meet PSD requirements if its PTE is equal to or greater than 250 tpy of any criteria pollutant. It triggers NNSR and title V permitting requirements if its PTE is equal to or greater than 25 tpy for NO<sub>x</sub> or VOC; 10 tpy for lead; or 100 tpy for CO, PM<sub>10</sub>, PM<sub>2.5</sub>, or SO<sub>2</sub>. The source also triggers title V permitting requirements if it emits 10 tpy or more of a single HAP or 25 tpy of all HAPs combined.<sup>39</sup>

As shown in Table 2, the PTE of the Met Buoys Project is below the PSD, NNSR, and title V major source applicability thresholds (making it a minor source). The PTE is also below the major facility NO<sub>x</sub> threshold of 25 tpy as specified in NJ's regulation for "Control and Prohibition of Air Pollution from Oxides of Nitrogen" found at N.J.A.C. 7:27-19 and incorporated by reference in 40 C.F.R. part 55, Appendix A.<sup>40</sup> The NJ Minor NSR air permitting regulations, codified at N.J.A.C. 7:27-8 ("Permits and Certificates for Minor Facilities") (Subchapter 8) do not establish air pollution control requirements based on a source's PTE. The NJ air pollution control requirements that apply to the Met Buoys Project, which are independent of the Met Buoys Project's PTE, are described in Section IX of this Fact Sheet.

<sup>39</sup> NJ's NNSR regulation is contained at N.J.A.C. 7:27-18 ("Control and Prohibition of Air Pollution From New or Altered Sources Affecting Ambient Air Quality (Emission Offset Rule)"); for additional information on Subchapter 18's threshold(s) please see <http://www.state.nj.us/dep/aqm/currentrules/Sub18.pdf>. The NJDEP has an EPA approved Title V operating permit program, which is contained at N.J.A.C. 7:27-22 ("Operating Permits"); for additional information on Subchapter 22's threshold(s) please see <http://www.state.nj.us/dep/aqm/currentrules/Sub22.pdf>. These rules are incorporated by reference into 40 C.F.R. part 55.

<sup>40</sup> N.J.A.C. 7:27-19 ("Control and Prohibition of Air Pollution from Oxides of Nitrogen") is available at <http://www.state.nj.us/dep/aqm/currentrules/Sub19.pdf>.

## 2. Potential to Emit Calculation Methods

Ocean Wind used the following approaches to calculate the Met Buoys Project PTE, which inform some of the OCS air permit conditions (i.e., emission, fuel usage and hours limits, and monitoring, recordkeeping and reporting requirements). See application for more details related to the calculation of the PTE (i.e., emission factors, equations, and assumptions used).

- a. The PTE was calculated based on the estimated operating hours for each of the workboat and support vessels' engines during installation, annual inspection, quarterly maintenance, and decommissioning of the met buoys; engines' emission factors; and load. EPA notes that in calculating the PTE of the working and support vessels' engines, Ocean Wind assumed only good weather conditions during all working and support vessels activities. Further, in calculating the emissions resulting from the maintenance activities, Ocean Wind did not account for any unplanned or unscheduled maintenance activities which may require the use of both workboat and support vessels. EPA notes that the PTE so calculated does not account for potential weather-related interruptions/delays and unplanned activities. Therefore, the OCS air permit will require Ocean Wind to monitor the actual hours of operation of each of the workboat and support vessels' engines.
- b. An emission factor of 0.0015 lb of SO<sub>2</sub>/MMBTU was used in the application to calculate the SO<sub>2</sub> PTE of all Met Buoys Project engines. This was based on a fuel sulfur content of 15 ppm by weight or 0.0015% by weight and the assumption that all sulfur in the fuel is converted to SO<sub>2</sub> during combustion. The OCS air permit will include the 15 ppm by weight of sulfur content in fuel as a permit limit.
- c. The PTE of the two met buoys diesel-fueled engines were calculated based on the engines' maximum rated power (100% load) and 500 operating hours per year (hr/yr) per engine. The OCS air permit will include 500 hr/yr per engine as a permit limit.
- d. The PTE of the workboat vessels' propulsion and auxiliary engines was calculated based on an assumed 43% engine load (and not on 100% load) during installation, annual inspection, quarterly maintenance, and decommissioning, and while the vessels are enroute to and from the met buoys' locations. To ensure compliance with the assumed 43% load, the OCS air permit will include conditions establishing limits on fuel usage (gal/yr) identical to the fuel usage amounts presented in the application.<sup>41</sup>
- e. The PTE of the support vessel propulsion engines was calculated based on 45% load (not on 100% load) during the installation, annual inspection, quarterly maintenance, and decommissioning, and while the vessels are enroute to and from the met buoys' locations. To ensure compliance with the assumed 45% load, the OCS air permit will include conditions establishing limits on fuel usage (gal/yr) identical to the fuel usage amounts presented in the application.<sup>42</sup>

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<sup>41</sup> The application includes fuel usage (gal/yr) for the workboat vessel's propulsion and auxiliary engines, assuming 43% load.

<sup>42</sup> The application includes fuel usage (gal/yr) for the support vessel's propulsion engines, assuming 45% load.

- f. Table 3 below presents the emission factors in grams per kilowatt-hour (g/kW-hr) used by the EPA in the calculation of the PTE for NO<sub>x</sub>, VOC, CO, and PM of the 2 met buoys engines, which represent the NSPS Subpart III emission standards. We note that Ocean Wind calculated the PTE for NO<sub>x</sub>, VOC, CO, and PM emissions for the 2 met buoy engines based on the engines manufacturer's emissions guarantees, which are lower than the NSPS Subpart III emission standards. Thus, calculating the PTE based on the applicable NSPS Subpart III emissions standard is a conservative approach.

The Ocean Wind met buoys engines are model year 2011, and thus they will be subject to the NSPS Subpart III requirements for post 2007 model year diesel-fueled engines with maximum engine power between 8 and 19 kW. The NO<sub>x</sub> + Non-Methane Hydrocarbons (NMHC), CO and PM emissions factors in the table below represent the relevant Subpart III emission standards for non-emergency engines from 40 C.F.R. § 60.4204(b). The table below also includes columns apportioning the NO<sub>x</sub>+NMHC emission standard into NO<sub>x</sub> and VOC components (by assuming all NMHCs were VOCs) based on Tier 1 NSPS III emission standards of 9.2 g/kW-hr of NO<sub>x</sub> and 1.3 g/kW-hr of VOC.

Table 3 – NSPS Subpart III emission limits applicable to the Ocean Wind Yanmar engines\*

Model Years	NO <sub>x</sub> +NMHC	CO	PM	NO <sub>x</sub>	VOC
<b>2008-2014</b>					
8 < kW < 19	7.5 g/kW-hr (5.59 g/HP-hr)	6.6 g/kW-hr (4.92 g/HP-hr)	0.40 g/kW-hr (0.28 g/HP-hr)	6.57 g/kW-hr (4.90 g/HP-hr)	0.93 g/kW-hr (0.69 g/HP-hr)

\*The NO<sub>x</sub>+ NMHC, CO and PM (g/kW-hr) (NSPS III emission standards) were converted to g/HP-hr by multiplying g/kW-hr value by 0.746.

- g. For the calculation of the PTE of PM<sub>10</sub> and PM<sub>2.5</sub> for the met buoys engines, Appendix A of the application assumed, conservatively, that PM<sub>10</sub> and PM<sub>2.5</sub> each equal PM.

#### **VIII. 40 C.F.R. § 55.13 – Federal Requirements Applicable to the Ocean Wind Met Buoys Project (two met buoys diesel-fueled engines)**

##### **A. Standards of Performance for New Stationary Sources – 40 C.F.R. Part 60, Subpart A (General Provisions)**

The following parts of the NSPS Subpart A apply to the two met buoys diesel-fueled engines: 40 C.F.R. §§ 60.1 through 60.6, 60.9, 60.10, 60.12, 60.14 through 60.17, and 60.19.

**B. 40 C.F.R. Part 60, Subpart III – Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) (NSPS 4I)**

NSPS 4I applies to stationary CI ICE that are manufactured after April 1, 2006 and are not fire pump engines. NSPS 4I's emission limitations are dependent on an engine's size and date of manufacture.

The two Yanmar 2TNV70 diesel-fueled engines on the met buoys are model year 2011, 10-kW, naturally-aspirated, and 0.29 Liters/cyl, and will be identified in the OCS air permit by emission source ID Nos. MBF1-CIE and MBF2-CIE. These engines are subject to the NSPS 4I requirements applicable to owners and operators of a model year 2007 or later, non-emergency stationary CI ICE with a displacement of less than 10 liters/cyl. 40 C.F.R. § 60.4204(a) & (b).<sup>43</sup> More specifically, the engines must comply with:

- 40 C.F.R. § 1039.102(b) - emission standards for NO<sub>x</sub> + NMHC, CO, and PM for model years 2008-2014 engines with maximum engine power of 8-19 kW;
- 40 C.F.R. § 1039.105 - smoke standards;
- 40 C.F.R. § 1039.115 - crankcase emissions standards;
- 40 C.F.R. § 60.4206 - engine owners/operators must “operate and maintain” the engines to achieve the applicable emission standards for the entire life of the engines; and
- 40 C.F.R. § 60.4207(b) - engine owners and operators must use only diesel fuel that meets the requirements of 40 C.F.R. § 80.510(b).

Other NSPS 4I provisions that apply to the met buoys engines include 40 C.F.R. § 60.4211 (establishing compliance requirements) and 40 C.F.R. § 60.4218, which specify that the following parts of the NSPS Subpart A General Provisions are applicable to the two met buoys engines: §§ 60.1 through 60.6, 60.9, 60.10, 60.12, 60.14 through 60.17, and 60.19.

**C. 40 C.F.R. Part 63, Subpart ZZZZ— National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (NESHAP 4Z)**

Pursuant to 40 C.F.R. § 63.6590(c)(1), a new CI ICE located at an area source of HAP emissions meet the NESHAP 4Z requirements by meeting the requirements of NSPS 4I. There are no additional NESHAP 4Z requirements that apply to new compression ignition engines located at area sources, such as the Ocean Wind met buoys' engines.<sup>44</sup>

**IX. 40 C.F.R. § 55.14 – COA Requirements Applicable to the Ocean Wind Met Buoys Project**

As previously stated in this Fact Sheet, the Met Buoys Project would be located in the inner OCS, and thus, is subject to applicable provisions of the NJ air pollution control regulations which are codified at N.J.A.C. 7:27 or 7:27B and incorporated by reference into Appendix A of 40 C.F.R. part 55. This section (IX) identifies which NJ regulations apply to the Met Buoys Project.

<sup>43</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are subject to NSPS 4I.

<sup>44</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are subject to NESHAP 4Z.

Under N.J.A.C. 7:27-8 (“Permits and Certificates for Minor Facilities”) (Subchapter 8), certain sources of air contaminants, namely significant sources, located at minor facilities are required to have a permit and certificate to operate under the provisions of Subchapter 8.<sup>45</sup> Based on its potential to emit, the Met Buoys Project is a minor facility. As specified at N.J.A.C. 7:27-8.2(c)(21), “[a]ny stationary reciprocating engine with a maximum rated power output of 37 kW or greater, used to generate electricity, not including emergency generators” is a significant source required to obtain a permit and an operating certificate pursuant to Subchapter 8. The two met buoys engines from the Met Buoys Project are considered stationary reciprocating engines used to generate electricity. However, these engines are smaller than 37 kW, and, thus, exempt from the Subchapter 8 permitting requirements.<sup>46</sup>

The two diesel fuel storage tanks on the met buoys, each with a storage capacity of 238 gallons, will be exempt from N.J.A.C. 7:27-8 (“Permits and Certificates for Minor Facilities”) because they do not meet the N.J.A.C. 7:27-7-8.2(c)(9) storage capacity threshold of 2,000 gallons.

As previously discussed in this Fact Sheet, based on the application, the workboat and support vessels’ engines are not subject to the applicable requirements of 40 C.F.R. part 55 (which includes Subchapter 8). However, EPA notes that even if the workboat and support vessels’ engines were subject to the applicable requirements of 40 C.F.R. part 55, those engines would still not be subject to Subchapter 8 permitting requirements. We believe that the workboat and support vessels’ engines are exempt from Subchapter 8 permitting requirements because they qualify as “[e]quipment used to conduct construction, repair, or maintenance (CRM) activities, provided that the equipment is portable and is located on site for no longer than one year” under N.J.A.C. 7:27-8.2(d) (15).

#### **A. N.J.A.C. 7:27-3 – “Control and Prohibition of Smoke from Combustion of Fuel”**

The two diesel-fueled engines on the met buoys are subject to N.J.A.C. 7:27-3.5 (“Smoke emissions from stationary internal combustion engines and stationary turbine engines”), which limits the smoke emitted from stationary ICE to smoke that has a shade or appearance which (1) is no darker than No.1 on the Ringelmann Scale; and (2) is no greater than 20% opacity, exclusive of visible condensed water vapor; such smoke shall not be emitted for more than 10 consecutive seconds.<sup>47</sup> Engines, like the met buoys engines, that fire diesel fuel oil with a sulfur content of 15 ppm by weight generally have opacity near zero. Also, the use of engines that are certified to the NSPS 4I emissions standards and required to be continuously maintained to comply with those requirements would comply with N.J.A.C. 7:27-3.5.

In the event the engines associated with the workboat and support vessels (including the workboat vessel deck engine, a Detroit 4-53 Series 53) were subject to the applicable

<sup>45</sup> See N.J.A.C. 7:27-8 “Permits and Certificates for Minor Facilities” available at <https://www.state.nj.us/dep/aqm/currentrules/Sub8.pdf>.

<sup>46</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are not subject to Subchapter 8.

<sup>47</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are subject to N.J.A.C. 7:27-3.

requirements of 40 C.F.R. part 55, those engines would not be subject to this rule because N.J.A.C. 7:27-3.3 (“Smoke emissions from marine installations”) applies only to emissions resulting from the combustion of fuel in the indirect heat exchanger of any marine installation. Based on the application, none of the engines associated with the workboat and support vessels are described as “indirect heat exchangers” as defined at N.J.A.C. 7:27-3.1.

### **B. N.J.A.C. 7:27-5 – “Prohibition of Air Pollution”**

The Met Buoys Project and all associated emission sources are subject to the general provisions for prohibition of air pollution found at N.J.A.C. 7:27-5.2.<sup>48</sup> Ocean Wind would comply with these requirements by complying with all the terms and conditions included in the OCS air permit. The OCS air permit will address the general prohibition provisions of N.J.A.C. 7:27-5.2.

### **C. N.J.A.C. 7:27-9 – “Sulfur in Fuels”**

The fuel combusted by the met buoys’ diesel-fueled engines is subject to N.J.A.C. 7:27-9.2(b), Table 1B, which limits the sulfur content in No. 2 fuel oil (the type of fuel the two met buoys engines would combust) used by any person located in the State of NJ to 15 ppm by weight (0.0015 % by weight).<sup>49</sup> The combustion of fuel in the met buoys diesel-fueled engines would also be subject to N.J.A.C. 7:27-9.2(b), Table 2B, which limits the SO<sub>2</sub> emissions resulting from combustion of No. 2 fuel oil to 0.00160 lb/MMBTU for the entire State of NJ. The OCS air permit will require Ocean Wind to combust only fuel oil with a maximum sulfur content of 15 ppm by weight, which will result in maximum SO<sub>2</sub> emissions from these engines of 0.00150 lb/MMBTU, which complies with this regulation.

In the event the workboat and support vessels engines (including the workboat vessel deck engine, a Detroit 4-53 Series 53) were subject to the applicable requirements of 40 C.F.R. part 55, the provisions of N.J.A.C. 7:27-9.2(b) do not apply to fuel used by “ocean-going vessels.” N.J.A.C. 7:27-9.3. Thus, N.J.A.C. 7:27-9.2(b) would not apply to the fuel combusted by the engines associated with the workboat and support vessels. Regardless, Ocean Wind proposes in its application to use only fuel with a sulfur content of 15 ppm by weight for all engines associated with the workboat and support vessels. Since Ocean Wind calculated the Met Buoys Project PTE of SO<sub>2</sub> emissions based on 15 ppm sulfur content in fuel, the OCS air permit will require Ocean Wind to combust only fuel oil with a sulfur content of no greater than 15 ppm by weight.

## **X. Compliance Methodology**

To assure compliance with the emission standards and limitations set up in the draft OCS air permit, the draft permit establishes the following compliance demonstration method:

- a. Maintain and operate the two met buoys engines according to the manufacturer’s written instructions.

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<sup>48</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are subject to N.J.A.C. 7:27-5.

<sup>49</sup> Ocean Wind, in its application, acknowledged that the met buoys engines are subject to N.J.A.C. 7:27-9.

- b. Monitor and record the actual hours of operation of each of the engines associated with the Met Buoys Project.
- c. Monitor and record the fuel usage for the propulsion and auxiliary engines of the workboat vessel, and for the propulsion engines of the support vessel.
- d. Monitor the sulfur content and maintain records that show the sulfur content of all fuel used by all Met Buoys Project engines.
- e. Calculate and record the actual annual emissions resulting from the Met Buoys Project.
- f. Report the following: the date installation of the met buoys commenced and completed; the beginning and completion dates for the one-time annual inspection and for the decommissioning; the actual operating hours and fuel usage; and the actual emissions associated with the Met Buoys Project generated in the 1<sup>st</sup> year of operation and those generated in the 2<sup>nd</sup> year of operation, and the associated emission calculations.

#### **XI. 40 C.F.R. § 55.10 – “Fees”**

40 C.F.R. § 55.10(a)(2) requires that for OCS sources located within 25 miles of States’ seaward boundaries, “EPA will collect all [non-Title V] fees from OCS sources calculated in accordance with the fee requirements imposed in the COA . . .”. As stated previously in this Fact Sheet, the COA for the Ocean Wind Met Buoys Project is the State of NJ. The fee provisions that may apply to the Met Buoys Project are contained at N.J.A.C. 7:27-8.6 (“Service fees”), since N.J.A.C 7:27-8 contains permitting requirements for certain sources of air contaminants. However, as previously discussed in this Fact Sheet,<sup>50</sup> none of the emission sources associated with the Met Buoys Project are actually subject to the permitting requirements of N.J.A.C. 7:27-8. Thus, EPA determined that the service fee provisions of N.J.A.C. 7:27-8.6 do not apply to the Met Buoys Project and no fee is due for this OCS air permit.

#### **XII. Requirements of Other Acts**

For the purposes of the Endangered Species Act (ESA), National Historic Preservation Act (NHPA), and Coastal Zone Management Act (CZMA) the Met Buoys Project is also a federal action for the Bureau of Ocean Energy Management (BOEM), which is the lead permitting agency for OCS wind energy projects such as the Met Buoys Project. As previously discussed in this Fact Sheet, BOEM requires Ocean Wind to obtain a SAP approval before installing the met buoys. Thus, EPA believes that its own permitting action (to issue an OCS air permit for the Met Buoys Project) is interrelated to, or interdependent with, BOEM’s SAP approval of the Met Buoys Project.

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<sup>50</sup> See Section IX.

## **A. Endangered Species Act and Magnuson – Stevens Fishery Conservation and Management Act**

Under section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), the EPA must ensure that any action authorized, funded, or carried out by the EPA is not likely to jeopardize the continued existence of any federally listed endangered species or threatened species or result in the destruction or adverse modification of such species' designated critical habitat. If the EPA's action (i.e. permit issuance) may affect a federally listed species or designated critical habitat, ESA § 7(a)(2) and relevant implementing regulations at 50 C.F.R. part 402 require consultation between the EPA and the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS), depending on the species at issue. Further, in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), 16 U.S.C. § 1855(b)(2), federal agencies are required to consult with the NMFS on any federal action that may result in adverse effects on essential fish habitat (EFH).<sup>51</sup> BOEM, in the context of preparing a 2012 Environmental Assessment (EA)<sup>52</sup> for offshore commercial wind lease areas and site assessment activities such as approving SAPs (including for the Ocean Wind lease area and site assessment activities), consulted with USFWS and NMFS on assessing the potential impact of those proposed actions on endangered or threatened species and their designated critical habitat, and on EFH. USFWS/NMFS concurred with BOEM's determination that the proposed action would not adversely affect the species, their designated critical habitat, or EFH. On May 17, 2018<sup>53</sup>, the EPA shared with NMFS a description of the Met Buoys Project for which Ocean Wind submitted to the EPA an OCS air permit application, and asked NMFS to determine if the EPA can rely on the ESA and MSFCMA consultations previously completed by BOEM in 2012 to comply with our obligations pursuant to ESA § 7(a)(2) and MSFCMA § 305(b)(2). In a June 19, 2018 letter,<sup>54</sup> NMFS confirmed that BOEM previously completed ESA and MSA consultations that cover the Ocean Wind met buoys project, and thus no further EPA action is required for the Ocean Wind Met Buoys Project to meet ESA and MSFCMA statutory obligations.

## **B. National Historic Preservation Act**

Section 106 of the NHPA, 16 U.S.C. § 470f, and its implementing regulations codified at 36 C.F.R. part 800 direct federal agencies to consider the effects of their undertakings on historic properties that are or may be eligible for the National Register of Historic Places, and afford the

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<sup>51</sup> The MSFCMA was enacted to promote the U.S. fishing industry's optimal exploitation of coastal fisheries by consolidating control over territorial waters to manage fish stocks. Implementation of the MSFCMA is by the U.S. Department of Commerce, NMFS, and its appointed management councils.

<sup>52</sup> See BOEM's 2012 "Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia", sections 5.2.1. and 5.2.2., available at: [https://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/Mid-Atlantic\\_Final\\_EA\\_012012.pdf](https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf).

<sup>53</sup> A copy of the May 17, 2018 letter from EPA R2 to NMFS is included in the administrative record under "Supporting Documentation" and may be found at <https://www.epa.gov/publicnotices/draft-outer-continental-shelf-ocs-air-permit-construct-and-operate-ocean-wind-llc>.

<sup>54</sup> A copy of the June 19, 2018 letter from NMFS to EPA R2 is included in the administrative record under "Supporting Documentation" and may be found at <https://www.epa.gov/publicnotices/draft-outer-continental-shelf-ocs-air-permit-construct-and-operate-ocean-wind-llc>.

Advisory Council on Historic Preservation (ACHP) an opportunity to comment on such undertaking.<sup>55</sup> The EPA’s issuance of an OCS air permit, such as the Ocean Wind permit, is a federal undertaking under the NHPA.<sup>56</sup> The EPA has determined that the issuance of an OCS air permit for emissions from the Ocean Wind Met Buoys Project, including emissions from the installation, operation and maintenance, and decommissioning of the met buoys, will not have an adverse effect on any historic properties that are or may be eligible for the National Register of Historic Places. A January 2012 Programmatic Agreement that covers the Ocean Wind commercial wind lease area provided for NHPA section 106 consultation between BOEM, the Advisory Council on Historic Preservation, and other consulting parties during both the leasing process and the SAP approval process (including for met buoys projects), and allowed for a phased identification and evaluation of historic properties. On July 11, 2012, BOEM made a finding of no historic properties affected by issuance of certain OCS wind commercial leases, including the Ocean Wind lease wind energy area.<sup>57</sup> The Ocean Wind SAP approval<sup>58</sup> issued by BOEM on May 17, 2018 for the Met Buoys Project requires, if Ocean Wind discovers a potential historical resource, that Ocean Wind notify BOEM within 24 hours of the discovery, and then follow a process to investigate historic properties located within the met buoys project area, assess the potential adverse effects associated with the met buoys project activities, and avoid, reduce, or resolve any such effects.

### C. Coastal Zone Management Act

The CZMA of 1972 and its implementing regulations codified at 15 C.F.R. part 930, subpart C require that federal actions that are reasonably likely to affect any land or water use or natural

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<sup>55</sup> For relevant definitions of undertaking, historic property, National Register, and Council, *see* 36 C.F.R. § 800.16.

<sup>56</sup> *See* BOEM’s 2012 Final Environmental Assessment (EA) entitled “Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia,” section 5.2.4, available at:

[https://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/Mid-Atlantic\\_Final\\_EA\\_012012.pdf](https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf) determining that its approval of SAP for Atlantic OCS wind energy areas (including reasonably foreseeable consequences associated with the installation, operation and maintenance, and decommissioning of meteorological buoys or towers) constitute undertakings subject to NHPA Section 106 review). BOEM prepared this single EA for all Wind Energy Areas offshore NJ, DE, MD, and Virginia, including the Ocean Wind lease area.

<sup>57</sup> *See* “Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area for Wind Energy Development on the Outer Continental Shelf under the ‘Smart from the Start Initiative,’” available at:

[https://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/NJ%20WEA%20Documentation%20in%20Support%20of%20a%20Finding%20of%20No%20Historic%20Properties%20Affected.pdf](https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/NJ%20WEA%20Documentation%20in%20Support%20of%20a%20Finding%20of%20No%20Historic%20Properties%20Affected.pdf).

<sup>58</sup> BOEM’s SAP approval for this Ocean Wind project is available at:

<https://www.boem.gov/Ocean-Wind-SAP-Approval-OCS-A-0498/>.

resource<sup>59</sup> of the coastal zone<sup>60</sup> be “consistent to the maximum extent practicable”<sup>61</sup> with the relevant enforceable policies of the State’s federally approved coastal zone management program. *See* CZMA § 307; 15 C.F.R. part 930, subpart C. If an activity will have direct, indirect, or cumulative effects, the activity is subject to a Federal Consistency Determination (CD). The EPA’s issuance of OCS air permits, such as the Ocean Wind OCS air permit, are considered federal actions under the CZMA. However, the EPA has determined that the issuance of an OCS air permit for the Met Buoys Project emissions will not result in any direct or indirect impacts to coastal resources identified by the NJ coastal management program. The Met Buoys Project will be located far outside of the boundaries of NJ’s designated coastal zone; the two met buoys will be located 12 nm (14 statute miles) and 17.8 nm (20 statute miles) from the NJ shoreline, respectively. BOEM prepared a Regional CD (RCD)<sup>62</sup> for the NJ OCS Wind Energy Areas (WEAs), including the Ocean Wind lease area, which was transmitted to the state of NJ<sup>63</sup>. State of NJ concurred with BOEM’s conclusion that issuing a lease and approving a SAP in the NJ WEAs, including for the installation, operation and maintenance, and decommission activities of met buoys projects such as the Ocean Wind Met Buoys Project, is consistent to the maximum extent practicable with the enforceable policies of the CMPs of NJ.<sup>64</sup>

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<sup>59</sup> *See* 15 C.F.R. § 930.11 (“*Any coastal use or resource*. The phrase “any coastal use or resource” means any land or water use or natural resource of the coastal zone. Land and water uses, or coastal uses, are defined in sections 304(10) and (18) of the act, respectively, and include, but are not limited to, public access, recreation, fishing, historic or cultural preservation, development, hazards management, marinas and floodplain management, scenic and aesthetic enjoyment, and resource creation or restoration projects. Natural resources include biological or physical resources that are found within a State’s coastal zone on a regular or cyclical basis. Biological and physical resources include, but are not limited to, air, tidal and nontidal wetlands, ocean waters, estuaries, rivers, streams, lakes, aquifers, submerged aquatic vegetation, land, plants, trees, minerals, fish, shellfish, invertebrates, amphibians, birds, mammals, reptiles, and coastal resources of national significance. Coastal uses and sources also includes uses and resources appropriately described in a management program.”).

<sup>60</sup> *See* CZMA § 304(1), 16 U.S.C. § 1453(1) (“The term ‘coastal zone’ means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, . . . The zone extends . . . seaward to the outer limit of State title and ownership under the Submerged Lands Act (43 U.S.C. 1301 et seq.) [and other statutes] as applicable. . . . Excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents.”); 15 C.F.R. § 930.11 (“*Coastal Zone*. The term ‘coastal zone’ has the same definition as provided in § 304(1) of the Act.”).

<sup>61</sup> *See* 15 C.F.R. § 930.32(a)(1) (“The term ‘consistent to the maximum extent practicable’ means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.”).

<sup>62</sup> As explained by BOEM in its 2012 EA and allowed under 15 C.F.R. § 930.36(e), BOEM prepared a single Regional CD (RCD) for all commercial lease issuances and SAP activities for the OCS WEAs offshore NJ, DE, MD, and VA.

<sup>63</sup> *See* BOEM’s 2012 “Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia Final Environmental Assessment”, section 5.2.3, available at:

[https://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/Mid-Atlantic\\_Final\\_EA\\_012012.pdf](https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf).

<sup>64</sup> *See* e-mails exchanges between the State of NJ (NJDEP) and BOEM, which are included in the administrative record under “Supporting Documentation” and may be found at <https://www.epa.gov/publicnotices/draft-outer-continental-shelf-ocs-air-permit-construct-and-operate-ocean-wind-llc>.

### XIII. Executive Order 12898 – Environmental Justice

Executive Order (EO) 12898 entitled “Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations” requires that federal agencies identify and address, as appropriate and to the extent practicable and permitted by existing law, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. *See* Exec. Order 12898, Section 1-101, 59 Fed. Reg. 7,629 (Feb. 16, 1994). Consistent with EO 12898 and the “EPA Region 2 Regional Implementation Plan to Promote Meaningful Engagement of Overburdened Communities in Permitting Activities,”<sup>65</sup> the EPA must (1) consider the environmental justice issues, on a case by case basis, connected with the issuance of federal permits (particularly when permitting projects for major sources that may involve activities with significant public health or environmental impacts on already overburdened communities); and (2) focus on whether the federal permitting action would have disproportionately high and adverse human health or environmental effects on minority or low income populations.

The EPA concluded that the Met Buoys Project’s emissions would not have a disproportionately high and adverse human health or environmental effects on minority or low-income populations. While the draft OCS air permit for the Met Buoys Project is part of a federal permitting action, as discussed in this Fact Sheet, the Met Buoys Project will last for only up to two years and will not be a major source as defined under CAA regulations.<sup>66</sup> The Met Buoys Project’s PTE of 0.9 tpy of NO<sub>x</sub> is the highest PTE for any criteria pollutant for this project and is well below major sources thresholds.<sup>67</sup> The two met buoys will be located at 12 nm (or 14 statute miles) (FLIDAR 1), and at 17.8 nm (or 20 statute miles) (FLIDAR 2) from the nearest shoreline. Consequently, the majority (if not all) of the emissions associated with the Met Buoys Project would be generated at the OCS location and localized near that location, remaining well away from the shore (i.e., populated area). Further, the impact of those emissions would be dispersed over a wide area of the OCS. Thus, no elevated concentration levels would affect the onshore areas (i.e., any populated area).

As stated by BOEM in its 2012 EA, the area encompassed by the Mid-Atlantic WEA, including the Ocean Wind met buoys location, is used actively for both commercial and recreational fishing. Individual fishing communities that use the met buoys OCS area for recreational or commercial fishing purpose could be minority or low-income populations. The application indicates that the vast majority of the Met Buoys Project emissions would occur during installation, maintenance and decommission, which involve the use of workboat and support vessels. As previously noted, the amount of these emissions is very low and would occur during very short period of times. The EPA notes that the potential adverse health effects (if any) of these emissions on recreational or commercial fishermen (including any that may belong to

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<sup>65</sup>The EPA Region 2 plan is available at <https://www.epa.gov/sites/production/files/2015-02/documents/2013-05-region-02-plan.pdf>. For additional information on addressing environmental justice in permitting, *see, e.g.*, the EPA’s “Plan EJ 2014: Considering Environmental Justice in Permitting,” available at <https://www.epa.gov/environmentaljustice/plan-ej-2014-considering-environmental-justice-permitting>.

<sup>66</sup> For more information see Section VII.D. of this Fact Sheet.

<sup>67</sup> *See* Section VII.D. of this Fact Sheet for the major source thresholds.

minority or low-income populations) will be reduced (if not entirely avoided) by BOEM's requirement that Ocean Wind notify fishermen prior to the start of the in-water work (installation, maintenance, and decommission) via the USCG Local Notice to Mariners and daily broadcasts on Marine Channel 16.<sup>68</sup> This notification would allow commercial and recreational fishermen to avoid the area where the installation, maintenance and decommission would take place and the emissions would occur.

The emissions generated during operation of the two back-up met buoys engines would be very low, since the OCS air permit, at the Ocean Wind request, will limit operation of each met buoy diesel engine to 500 hr/yr, and the engines are certified to meet the NSPS emissions standards. The EPA notes that some of the emissions generated by the engines associated with the workboat and support vessels' engines, which will depart from and return to Avalon Marine Center, Avalon, NJ (located 12 nm from the OCS location of FLIDAR 1), would occur near shore (within State water or near the State/Federal waters boundary). However, EPA notes that these emissions would add a small amount to the current vessel traffic emissions in the area, and, given their very low-level and very short duration, would have minor (if any) human health or environmental effects on the overall population, including any minority or low-income population.

EPA is aware that the temporary onshore activities related to the Met Buoys Project (staging, launching of workboat and support vessels, some limited assembly and repairs activities) would have the potential to generate emissions, but those emissions are not subject to this OCS air permit.<sup>69</sup> In its 2012 EA, BOEM acknowledged that the onshore activities related to the installation of met buoys generally have the potential to impact minority or low-income population. However, BOEM stated that the onshore activities will be performed at already existing coastal facilities, and no expansion of the existing facilities and no significant increase in activity at these existing facilities is anticipated. Thus, BOEM concluded that the low level of emissions from onshore activities associated with met buoys and towers, such as the Met Buoys Project, will be temporary in nature and will not have disproportionately high or adverse environmental or health effects on minority or low-income population.

In order to comply with the Section 5-5(c) ("Public Participation and Access to Information") of EO 12898, which requires that each federal agency work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public, the EPA has prepared a simplified Public Notice, available on the EPA website at <https://www.epa.gov/publicnotices/draft-outer-continental-shelf-ocs-air-permit-construct-and-operate-ocean-wind-llc>. These documents, along with this Fact Sheet, will ensure an opportunity for meaningful involvement for all communities.

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<sup>68</sup> See BOEM's 2012 "Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia Final Environmental Assessment", page 148, available at:

[https://www.boem.gov/uploadedFiles/BOEM/Renewable\\_Energy\\_Program/Smart\\_from\\_the\\_Start/Mid-Atlantic\\_Final\\_EA\\_012012.pdf](https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf); and BOEM's Ocean Wind SAP approval, available at: <https://www.boem.gov/Ocean-Wind-SAP-Approval-OCS-A-0498/>.

<sup>69</sup> See Section VII.D. of this Fact Sheet (discussion the definition of "potential to emit").

## **XIV. Other Issues**

### **A. General Conformity**

The General Conformity Rule codified at 40 C.F.R. part 51, subpart W and part 93, subpart B takes into account air pollution emissions associated with actions that are federally funded, licensed, permitted or approved and ensures that those emissions do not contribute to air quality degradation, thus preventing the achievement of state and federal air quality goals. The Met Buoys Project would be a federally permitted action since the OCS air permit would be issued by the EPA. The corresponding onshore areas, which are the onshore areas geographically closest to the Met Buoys Project's offshore location, Atlantic and Cape May counties, as well as the entire state of NJ, are classified as non-attainment areas for ozone. As established by 40 C.F.R. part 93, subpart B, nonattainment areas are subject to General Conformity Rule requirements. General Conformity only applies to emissions within State boundaries (onshore and in state waters).

If emissions of NO<sub>x</sub> and VOC (ozone precursors) associated with the Met Buoys Project but not otherwise authorized by an OCS air permit would exceed the 40 C.F.R. part 93, subpart B emission thresholds of 100 tpy of NO<sub>x</sub> and 50 tpy of VOC, a formal conformity determination would be required for NO<sub>x</sub> and VOC. However, since NO<sub>x</sub> and VOC emissions related to the Met Buoys Project and occurring within State boundaries are well below the above-mentioned thresholds, no general conformity determination is required.

### **B. Class I Area**

Pursuant to 40 C.F.R. § 51.307(a)(1) and § 51.307(b)(2), the EPA must notify any affected Federal Land Manager (FLM)<sup>70</sup> of any permit application for a new major source or a major modification to an existing major source, in either attainment or nonattainment areas, that may affect visibility in any Class I area (e.g., national parks and wilderness areas). Brigantine Wilderness is a Class I area in NJ in an ozone nonattainment area, about 20 nm (23 statute miles) from the closest Met Buoys Project OCS location. As discussed in this Fact Sheet, the Met Buoys Project PTE for NO<sub>x</sub> (the criteria pollutant emitted in the greatest amount) is way below both the attainment and nonattainment major source applicability thresholds. Thus, the EPA is not required to provide notice to the FLM regarding receipt of Ocean Wind's OCS air permit application.

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<sup>70</sup> Class I areas are discussed under CAA §162(a), 42 U.S.C. 7472.