Attachment 13

MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
1800 WASHINGTON BOULEVARD
BALTIMORE MD 21230

AIR QUALITY PERMIT TO CONSTRUCT
TENTATIVE DETERMINATION AND FACT SHEET

US WIND, INC.
MARYLAND WIND OFFSHORE PROJECT
ARA PREMISES NO. 047-0248
PERMIT NOs. 047-0248-9-0111 through 9-0114

DEFINITIONS

AQRV means Air Quality Related Values.

ARA means Maryland Department of the Environment Air and Radiation Administration. Also referred to as MDE-ARA.

Best Available Control Technology ("BACT") is an emissions limitation which is based on the maximum degree of control that can be achieved. It is a case-by-case decision that considers energy, environmental, and economic impact. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible.

BOEM means Bureau of Ocean Energy Management.

Category 1 means relating to a marine engine with specific engine displacement below 7.0 liters per cylinder. Category 1 for marine engines is defined at 40 C.F.R. § 1042.901 ("Definitions").

Category 2 means relating to a marine engine with a specific engine displacement at or above 7.0 liters per cylinder but less than 30.0 liters per cylinder. Category 2 for marine engines is defined at 40 C.F.R. § 1042.901 ("Definitions").

Category 3 means relating to a reciprocating marine engine with a specific engine displacement at or above 30.0 liters per cylinder. Category 3 for marine engines is defined at 40 C.F.R. § 1042.901 ("Definitions").

Centroid means the center of the Wind Development Area.

CFR means Code of Federal Regulations.

COMAR means Code of Maryland Regulations.

Commence construction refers to commencing construction within the Wind Development Area. This is the date on which the owner or operator has all necessary preconstruction approvals or permits and has either:

(1) Begun, or caused to begin, a continuous program of actual construction, to be completed within a reasonable time as determined by MDE; or

(2) Entered into binding agreement or contractual obligation, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction to be completed within a reasonable time as determined by MDE.

Consecutive Rolling 12-Month Period means the 12-month period, recalculated for each calendar month, which includes that month and the 11 months prior.

Construction and Commissioning Phase, or *C&C*, begins on the C&C Start Date and ends when the last wind turbine generator ("WTG") to be constructed begins producing commercial power.

Construction and Commissioning Phase Start Date, or *C&C Start Date*, is the first day any vessel, equipment, or activity, that meets the definition of an Outer Continental Shelf "OCS" source, operates, occurs, or exists in the Wind Development Area.

Construction and Operations Plan (COP). The COP describes the construction, operations, and conceptual decommissioning plans under the commercial lease, including the project easement. [30 CFR 585.620 et seq.]

Corresponding Onshore Area ("COA") means, with respect to any existing or proposed Outer Continental Shelf (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 40 C.F.R. § 55.5.

Crew Transfer Vessels means all self-propelled vessels that are not Ocean-going Vessels and are used for carrying personnel to and from off-shore and in-harbor locations (including, but not limited to, off-shore work platforms, construction sites, and other vessels) from the staging area to the WDA.

Daily Emissions means the facility-wide emissions of a given pollutant in a day from all emission sources at the OCS Facility and emissions from vessels servicing or associated with the OCS Facility while enroute to or from the OCS Facility when within 25 nautical miles ("NM") of the OCS Facility.

Day means a calendar day, including weekends and federal/state holidays.

DNREC means Delaware Department of Natural Resources and Environmental Control.

EIAPP means Engine International Air Pollution Prevention.

Engine load factor (%) means the engine daily load factor for a given marine or non-marine engine calculated as follows:

(1) For each marine engine of a marine vessel, the daily load factor (%) shall be calculated and recorded daily by dividing the actual daily fuel use rate (gallons/day, over a 24-hour period) of a specific vessel by the maximum daily fuel rate for the vessel (gallons/day, assuming all vessel engines operating at their maximum rated kW power for 24 hours/day). The calculated daily load factor (%) shall apply to each marine engine of that vessel.

(2) For each non-marine engine used to power OSSs and WTGs during C&C and the permanent non-marine engines on the OSSs during O&M, the daily load factor (%) shall be calculated and recorded daily by dividing the actual daily fuel use rate (gallons/day, over a 24-hour period) of a specific engine by the maximum daily fuel rate for that engine (gallons/day, assuming engine operating at its maximum rated kW power for 24 hours/day). The calculated daily load factor (%) shall apply to each nonmarine engine.

EPA means United States (U.S.) Environmental Protection Agency. Also referred to as USEPA.

EPA-certified means has obtained a certificate of conformity for an engine family that complies with the emission standards and requirements in the standard-setting part.

ERC means Emissions Reduction Credit.

Foreign-flagged vessel means a vessel of foreign registry, or a vessel operated under the authority of a country other than the United States.

GHG means Greenhouse Gas.

Harbor Craft ("HC"), also called *"Commercial Harbor Craft,* means any private, commercial, government, or military marine vessel including, but not limited to, passenger ferries, excursion vessels, tugboats, ocean-going tugboats, towboats, push-boats, crew, and supply vessels, work boats, pilot vessels, supply boats, fishing vessels, research vessels, U.S. Coast Guard vessels, hovercraft, emergency response harbor craft, and barge vessels that do not otherwise meet the definition of ocean-going vessels or recreational vessels.

IAPP means International Air Pollution Prevention.

International Air Pollution Prevention ("IAPP")-certified means has obtained a certificate that documents compliance with MARPOL Annex VI.

Lowest Achievable Emissions Rate ("LAER") means the most stringent emission limitation contained in the implementation plan of any State for such class or category of source, or the most stringent emission limitation achieved in practice by such class or category of source.

LSMGO ("LSMGO" or "low sulfur marine diesel fuel oil") means diesel fuel with a maximum sulfur content of 1,000 ppm.

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel (marine engine is defined at 40 C.F.R. § 1042.901). This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. A fueling system is considered integral to the vessel only if one or more essential elements are permanently affixed to the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine, or 'main' engine, means a marine engine that moves a vessel through the water or directs the vessel's movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

MARPOL means The International Convention for the Prevention of Pollution from Ships.

Maryland Offshore Wind Project means the activities and emission sources that will occur within the BOEM Lease Area OCS-A 0490, as well as marine vessels while en route to and from the OCS location of the project when within 25 nautical miles of the OCS Lease Area's boundary and as regulated under 40 CFR, Part 55; which will include approximately 2 gigawatts of nameplate capacity within the OCS Lease Area and up to 121 wind turbine generators, up to four (4) offshore substations, and one (1) meteorological tower, interconnected to the onshore electric grid by up to four (4) 230-275 kV export cables into onshore substations in Delaware.

NAAQS means National Ambient Air Quality Standards.

Nautical Mile ("NM") is a unit of length defined as 1.1508 miles.

Nearest Onshore Area ("NOA") means, with respect to any existing or proposed OCS source, the onshore area that is geographically closest to that source." [Ref: 40 C.F.R. § 55.2].

NSR means Non-Attainment New Source Review.

NWR means National Wildlife Refuge.

Ocean-going Vessel means a commercial, government, or military vessel meeting any one of the following criteria: a vessel greater than or equal to 400 feet in length overall as defined in 50 C.F.R. § 679.2, as adopted June 19, 1996;

(1) a vessel greater than or equal to 10,000 gross tons per the convention measurement (international system) as defined in 46 C.F.R. 69.51-.61, as adopted September 12, 1989; or

(2) a vessel propelled by a marine compression-ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

OCS means Outer Continental Shelf.

OCS Facility means the entire wind development area once the first OCS source is established in a wind development area. The first OCS source is established once any equipment or activity that meets the definition of an OCS source is located within a wind development area.

OCS Lease Area means the area within the designated Renewable Energy Lease Area OCS-A 0490, awarded by the Bureau of Ocean Energy Management ("BOEM") and located about 10.0 nautical miles (11.5 statute miles) off the coast of Maryland.

OCS Lease Area Boundary means the boundaries of the lease area as defined by the BOEM lease.

OCS Source means any equipment, activity, or facility which:

(1) Emits or has the potential to emit any air pollutant;

(2) Is regulated or authorized under the Outer Continental Shelf Lands Act ("OCSLA") [Ref: 43 U.S.C. § 1331 *et seq.*]; and

(3) Is located on the OCS or in or on waters above the OCS.

This definition shall include vessels only when they are:

(1) Permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources therefrom, 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 sources aspects of the vessels will be regulated.

Offshore Substation ("OSS") means a common interconnection point for power generated by the Wind Turbine Generators that increases the voltage for transmission to the onshore electrical grid.

Operation and Maintenance Phase, or *O&M*, is the period that begins on the operation and maintenance phase start date.

Operation and Maintenance Phase Start Date, or *O&M Start Date*, is the first day the Maryland Offshore Wind Project produces commercial power.

Permittee includes US Wind, Inc.; its successor(s) that operate the permitted project; its contractors; and any agents or parties acting on its behalf that conduct activities regulated by this permit, including but not limited to vessel, barge, and equipment operation.

Potential to emit means the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the 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 part of its design if the limitation or the effect it would have on emissions is enforceable as a practical matter.

PSD means Prevention of Significant Deterioration.

"Responsible official" means one of the following:

(1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or another person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of that person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(a) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25,000,000 in second quarter 1980 dollars, or

(b) The delegation of authority to the representative is approved in advance by the Department;

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(3) For a municipal, State, federal, or other public agency: either a principal executive officer or ranking elected official; for the purposes of this chapter and COMAR 26.11.03, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency, for example a regional administrator of EPA; or

(4) For affected sources:

(a) The designated representative insofar as actions, standards, requirements, or prohibitions concerning acid rain emissions under Title IV of the Clean Air Act or the regulations promulgated under it; and

(b) The designated representative for any other purpose under this chapter or COMAR 26.11.03. [COMAR 26.11.02.01(47)]

Tier 1 means relating to the Tier 1 emission standards, as shown in Appendix I to 40 C.F.R. Part 1042.

Tier 2 means relating to the Tier 2 emission standards, as shown in 40 C.F.R. § 1042.104 and Appendix I to 40 C.F.R. Part 1042.

Tier 3 means relating to the Tier 3 emission standards, as shown in 40 C.F.R. § 1042.101 and § 1042.104.

Tier 4 means relating to the Tier 4 emission standards, as shown in 40 C.F.R. § 1042.101.

Ultra-low sulfur diesel ("*ULSD*") means diesel fuel that is certified to meet the standards in 40 C.F.R. § 1090.305.

U.S.-flagged vessel means a vessel of U.S. registry, or a vessel operated under the authority of the United States.

USC and U.S.C. mean United States Code.

Wind Development Area ("*WDA*") is the designated Renewable Energy Lease Area OCS-A 0490, awarded by BOEM, located on the OCS. The project lease area is approximately 79,707 acres. At its closest point the WDA is approximately 10.0 nautical miles (11.5 statute miles) from the Maryland shoreline. Note that the term WDA is used before an individual OCS source is established. Once the first OCS source is established in the WDA, the entire WDA is considered the OCS Facility.

*Wind Turbine Generator ("*WTG") means equipment used to generate electricity from wind.

I. INTRODUCTION

The Maryland Department of the Environment (Department), Air and Radiation Administration (ARA) received an air quality permit application from US Wind, Inc. on November 30, 2023 (electronically), and hardcopies received on December 7, 2023 for the construction and operation of the Maryland Offshore Wind Project consisting of up to 121 wind turbine generators (WTG), up to four (4) offshore substations (OSS), and one (1) meteorological tower (Met Tower). The proposed project will be located approximately 10 nautical miles (NM) at its closest point off the coast of Worcester County, Maryland on the outer continental shelf (OCS). The application consists of an air quality permit-to-construct application, an application for a New Source Review (NSR) Approval, and an application for a Prevention of Significant Deterioration (PSD) Approval.

A notice was placed in the Worcester County Times on May 23, and 30, 2024 announcing a scheduled informational meeting to discuss the permit to construct application. The informational meeting was held on Thursday, June 13, 2024, at the Ocean City Convention Center, Rooms 201 and 202, located at 4001 Coastal Highway, Ocean City, Maryland 21842. The Informational Meeting consisted of an open house format poster session that began at 5:30 p.m. to 7:00 p.m., followed by a question-and-answer session from 7:00 p.m. to 8:00 p.m.

The Department has reviewed the application and has made a tentative determination that the proposed Maryland Offshore Wind Project is expected to comply with all applicable air quality regulations. A public hearing has been scheduled for January 7, 2025 (inclement weather date: January 9, 2025) at 6:00 pm at Ocean City Convention Center, Room 215, located at 4001 Coastal Highway, Ocean City, Maryland 21842, to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions, and/or to present other pertinent concerns about the proposed facility. Notices concerning the date, time and location of the public hearing will be published in the legal section of a newspaper with circulation in the general area of the proposed facility. Interested parties may also submit written comments.

If the Department does not receive any comments that are adverse to the tentative determination, the tentative determination will automatically become a final determination. If adverse comments are received, the Department will review the comments and will then make a final determination with regard to issuance or denial of the permit. A notice of final determination will be published in a newspaper of general circulation in the affected area.

II. PROJECT DESCRIPTION

In accordance with 40 CFR, Part 55, air pollution emissions generated from the construction, commissioning, operation, maintenance, and decommissioning of offshore wind turbine generators on the OCS are regulated under the Clean Air Act and subject to air quality permit requirements. The U.S. EPA has delegated authority to the State of Maryland to issue air permits for OCS projects for which Maryland is the corresponding onshore area (COA).

US Wind, Inc. proposes to install up to 121 WTGs on the OCS across approximately 80,000 acres located on the Renewable Energy Lease Area OCS-A 0490 awarded by the Bureau of Ocean Energy Management (BOEM). US Wind, Inc. will develop the Maryland Offshore Wind Project where the pollutant-emitting activities within the Wind Development Area (WDA) are part of a single plan to construct and operate the project. It is anticipated that the Maryland Offshore Wind project will generate approximately two (2) gigawatts of electrical power. The WTGs use the energy of the wind, a source of renewable energy, and convert it to electricity. The project will be located about 10 NM off the coast of Worcester County, Maryland on the OCS.

The proposed project's offshore components include the WTGs and up to four (4) OSSs that will receive the electricity generated by the WTGs via cables. The interarray cables will link the individual WTGs together to the OSSs, and the project will use 230-275 kV of export cables into onshore substations in Delaware. US Wind, Inc. will mount the WTGs on monopile foundations. A transition piece would then be fitted over the monopile and secured via bolts or grout. Finally, the nacelle and the blades are placed on the transition piece.

The OSSs are anticipated to be installed on piled jacket foundations. Where required, scour protection would be placed around foundations to stabilize the seabed near the foundations. The OSSs would serve as the interconnection points between offshore and onshore components. Each OSS will include electric generators, transformers, switchgears, and reactors to increase the voltage of the power captured from the interarray cables and control the flow through the export cables, so that the electricity can be efficiently transmitted onshore through submarine export cables. These offshore components are on the OCS.

The proposed project's onshore components are not subject to the OCS air regulations and thus will not be covered by the OCS air permit. Those onshore components include components such as the following: up to four export cable landfall areas in MD state; up to three (3) onshore export and interconnection cable routes; new onshore substations in Delaware state where electricity will be transmitted to the electric grid; an onshore staging port where project components and equipment will be staged; and one (1) operation and maintenance facility with offices, control rooms, warehouses, workshop space, and pier space. Onshore components are being addressed in separate federal, state, and/or local permitting or government review processes that may have their own public comment processes and are not a subject of the public review for this OCS air permit.

The Maryland Offshore Wind project will consist of three phases: construction and commissioning (C&C), operations and maintenance (O&M) and decommissioning. Offshore construction is anticipated to begin in 2025 and be completed within four (4) years. The anticipated commercial lifespan of the project (which is the O&M phase) is over 30 years. The decommissioning phase is not covered by this action and will be permitted separately at the time of decommission.

US Wind, Inc. proposes to use various marine vessels, which have onboard marine engines and construction equipment, for the following purposes: (1) for the C&C phase to construct the above-described offshore project components; and (2) for the O&M phase to maintain and repair the offshore project components.

The Permittee included detailed emissions calculations and emissions modeling in their application to determine whether potential emissions of regulated pollutants would trigger the requirements of a PSD Approval and/or NSR Approval in addition to an Air Quality Permit to Construct (PTC). The Department has determined that the Maryland Offshore Wind Project requires a PSD Approval for emissions of NO_2, CO, PM-10, and PM-2.5 and an NSR Approval for emissions of NOx. The PSD Approval and NSR Approval are issued in conjunction with the PTC.

The PTC includes requirements for all of the regulated pollutants covered by the PSD and NSR Approvals and also includes requirements for VOC, SO_2, lead (Pb), and greenhouse gas emissions. The types of vessels and engines used for the Maryland Offshore Wind Project subject to these requirements are summarized in Part B – Project Sources of the PTC.

III. APPLICABLE REGULATIONS

(1) The Maryland Offshore Wind Project is subject to all applicable federal air pollution control requirements including, but not limited to, the following:

(a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A and Subpart IIII for Standard of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE).

(b) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subparts A and Subpart ZZZZ for Standard of Performance for Reciprocating Internal Combustion Engines (RICE).

Note: The Permittee will meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII.

(2) The Maryland Offshore Wind Project is subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations, which have been incorporated by reference into 40 CFR Part 55, Appendix A:

(a) Permit to Construct and Approval requirements as listed in COMAR 26.11.02.04B and 26.11.02.09.

(b) State Permits to Operate requirements as listed in COMAR 26.11.02.13A.

(c) Information required to be maintained by a source as stated in COMAR 26.11.02.19C.

(d) Procedures regarding annual emissions certifications in COMAR 26.11.02.19D.

(e) General requirements for sources subject to Part 70 permits as listed in COMAR 26.11.03.02.

(f) Nuisance and odor requirements listed in COMAR 26.11.06.08 and COMAR 26.11.06.09.

(g) Control of NSPS Sources as listed in COMAR 26.11.06.12.

(h) Provisions and general requirements for the Control of Prevention of Significant Deterioration as listed in COMAR 26.11.06.14, and COMAR 26.11.01.01B.

(i) Visible emissions limits for stationary internal combustion engine powered equipment as listed in COMAR 26.11.09.05E.

(j) Sulfur Content Limitations for Fuel as listed in COMAR 26.11.09.07A.

(k) Provisions and general requirements for Major New Sources locating in a non-attainment area as listed in COMAR 26.11.17.03.

(3) The Permittee shall comply with all requirements, including emission limitations and standards, specified in the Prevention of Significant Deterioration Approval No. PSD-2024-01.

(4) The Permittee shall comply with all requirements, including emission limitations and standards, specified in the New Source Review Approval No. NSR-2024-01.

IV. GENERAL AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) for six (6) criteria pollutants, i.e., sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The primary standards were established to protect public health, and the secondary standards were developed to protect against non-health effects such as damage to property and vegetation.

The Department utilizes a statewide air monitoring network, operated in accordance with EPA guidelines, to measure the concentrations of criteria pollutants in Maryland's ambient air. The measurements are used to project statewide ambient air quality. The COA (Worcester County) is in an area currently designated as in attainment for SO_2, NO_2, CO, PM-10, PM-2.5, ozone, and lead.

Worcester County is in an attainment/unclassifiable area for the 2008 and 2015 ozone NAAQS. But, because Worcester County is located in the Ozone Transport Region, the Clean Air Act requires major sources to be subject to the requirements which would be applicable to major stationary sources if the area were classified as a moderate non-attainment area for ozone. The major source thresholds in Worcester County for ozone precursors NOx and VOC are 100 tons per year (tpy) and 50 tpy, respectively. If the potential emissions of a project will exceed the major source threshold for either pollutant, an NSR Approval is required.

With regard to toxic air pollutants (TAPs), screening levels (i.e., acceptable ambient concentrations for toxic air pollutants) are generally established at 1/100 of allowed worker exposure levels (TLVs)[1]. The Department has also developed additional screening levels for carcinogenic compounds. The additional screening levels are established such that continuous exposure to the subject TAP at the screening level for a period of 70 years is expected to cause an increase in lifetime cancer risk of no more than 1 in 100,000.

V. ENVIRONMENTAL JUSTICE ANALYSIS

The concept behind the term environmental justice (EJ) is that regardless of race, color, national origin, or income, all Maryland residents and communities should have an equal opportunity to enjoy an enhanced quality of life. How to assess whether equal protection is being applied is the challenge.

Communities surrounded by a disproportionate number of polluting facilities puts residents at a higher risk for health problems from environmental exposures. It is important that residents who may be adversely affected by a proposed source be aware of the current environmental issues in their community in order to have meaningful involvement in the permitting process. Resources may be available from government and private entities to ensure that community health is not negatively impacted by a new source located in the community.

Extensive research has documented that health disparities exist between demographic groups in the United States, such as differences in mortality and morbidity associated with factors that include race/ethnicity, income, and educational attainment.

[1] TLVs are threshold limit values (exposure limits) established for toxic materials by the American Conference of Governmental Industrial Hygienists (ACGIH). Some TLVs are established for short-term exposure (TLV – STEL), and some are established for longer-term exposure (TLV – TWA), where TWA is an acronym for time-weight average.

The Maryland General Assembly passed HB 1200, effective October 1, 2022, that adds to MDE's work incorporating diversity, equity and inclusion into our mission to help overburdened and underserved communities with environmental issues. In accordance with HB 1200/Ch. 588 of 2022, the applicant provided an environmental justice (EJ) Score for the census tract in which the proposed source is located using the Maryland EJ Screening Tool. The EJ Score, in the corresponding onshore census tract of Worcester County, expressed as a statewide percentile, was shown to be 17 which the Department has verified. This score considers three demographic indicators, minority population above 50%, poverty rate above 25% and limited English proficiency above 15%, to identify underserved communities, and multiple environmental health indicators to identify overburdened communities.

An EJ Score of 17 indicates that the corresponding onshore census tract of Worcester County from the Maryland Offshore Wind Project is an area that is not disproportionately impacted by sources of pollution or at a higher risk of health problems from environmental exposures than other areas in Maryland. The Department has reviewed the air quality impacts from the project and has determined that the proposed project will meet all applicable air quality standards.

VI. ENDANGERED SPECIES ACT (ESA), MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (MSA), AND NATIONAL HISTORIC PRESERVATION ACT (NHPA)

Under Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), EPA must ensure that any action authorized, funded, or carried out by 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 a federal action such as the issuance of an OCS air permit or delegated OCS air permit may affect a federally listed species or designated critical habitat, Section 7(a)(2) of the ESA, and relevant implementing regulations at 50 C.F.R. part 402, requires consultation between the EPA and the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS), depending on the species and/or habitat at issue.

In accordance with Section 305(b)(2) of the MSA, 16 U.S.C. § 1855(b)(2), Federal agencies must consult with the NMFS on any action that may result in adverse effects to essential fish habitat (EFH) identified under the MSA.

Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, and the implementing regulations at 36 C.F.R. part 800, require federal agencies to consider the effect of their undertakings on historic properties and afford an opportunity for the Advisory Council on Historic Preservation (ACHP) and consulting parties to consult on federal undertakings that have the potential to affect such properties.

EPA has delegated the federal authority to issue the OCS air permit for US Wind to the Maryland Department of the Environment (MDE). However, EPA remains responsible for compliance with ESA, MSA and NHPA. Furthermore, the ESA regulations at 50 C.F.R. § 402.07, the MSA regulations at 50 C.F.R. § 600.920(b), and the NHPA regulations at 36 C.F.R. § 800.2(a)(2), provide that where more than one federal agency is involved in an action, the consultation requirements may be fulfilled by a designated lead agency on behalf of itself and the other involved agencies. On September 24, 2018, BOEM accepted designation as lead agency for purposes of the ESA, MSA and NHPA "for wind energy development projects on the Atlantic [Outer Continental Shelf] for the purposes of fulfilling interagency consultations on the above obligations, and [designated] the EPA as a co-action agency for all proposed and future ESA, MSA, and NHPA compliance activities associated with wind development projects on the Atlantic OCS."

MDE's proposed federal OCS air permit for US Wind is for the same project BOEM analyzed in the Final Environmental Impact Statement (FEIS) for the Maryland Offshore Wind Project prepared pursuant to the National Environmental Policy Act (NEPA) (July 2024, BOEM 2024-0033), and approved in the Maryland Offshore Wind Project Record of Decision (September 2024).

In order to satisfy NHPA obligations, BOEM elected to use the NEPA process in lieu of the process set forth in the regulations at 36 C.F.R. Part 800. BOEM, in consultation with Tribal Nations, the State Historic Preservation Officers for Delaware, Maryland and Virginia, the ACHP, and consulting parties developed a Memorandum of Agreement (MOA) to document the resolution of the undertaking's adverse effects. Pursuant to Section XVII of the MOA, EPA intends to fulfill its NHPA Section 106 responsibilities by concurring with the terms of this MOA prior to the issuance of the final OCS Air Permit by MDE.

EPA also intends to rely upon the ESA and MSA consultations completed by BOEM for its approval of the Construction and Operation Plan (COP). The BOEM documents relied upon by EPA in fulfilling its consultation requirements under ESA, MSA, and NHPA have been included in the permit record for MDE's proposed air permitting action. The following documents have been included in the permitting record for this action:

1) Maryland Offshore Wind Final Environmental Impact Statement, Volume I, BOEM 2024-024, Docket Number: BOEM 2024-0033

2) Appendix A, Required Environmental Permits and Consultations, Maryland Offshore Wind Final Environmental Impact Statement, Volume I, BOEM 2024-024,Docket Number: BOEM 2024-0033

3) Appendix G, Mitigation and Monitoring, Maryland Offshore Wind Final Environmental Impact Statement, Volume I, BOEM 2024-024,Docket Number: BOEM 2024-0033

4) Appendix J Finding of Adverse Effect for Section 106 Consultation and Attachment J-1, Maryland Offshore Wind Final Environmental Impact Statement, Volume I, BOEM 2024-024,Docket Number: BOEM 2024-0033

5) BOEM and NFMS Record of Decision, Maryland Offshore Wind Project, Construction & Operations Plan, September 4, 2024

6) Maryland Offshore Wind Project Biological Assessment, prepared by BOEM for Fish & Wildlife Service, December 2023

7) Fish & Wildlife Service Biological Opinion for the Maryland Offshore Wind Project, May 31, 2024

8) National Marine Fisheries Service Biological Opinion for the Maryland Offshore Wind Project, June 18, 2024

9) Maryland Offshore Wind Project Essential Fish Habitat Assessment, prepared by BOEM for National Marine Fisheries Service, March 2024

10) Essential Fish Habitat Assessment, prepared by ESS Group for US Wind, Inc. November 2021

11) Information to Support Essential Fish Habitat Assessment, prepared by TRC for US Wind, Inc., revised July 2023

12) Letter from BOEM to EPA, Lead Agency Role for ESA, MSA, and NHPA for Atlantic Coast OCS Projects, September 24, 2018

VII. COMPLIANCE DEMONSTRATION AND ANALYSIS

The Maryland Offshore Wind Project must comply with all federal and State imposed air quality requirements and regulations. The Department conducted an engineering and air quality review of the application to determine the following:

A. Project Wide Emissions Limits

Total emissions of NOx, CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e) from the Maryland Offshore Wind Project shall be less than the following limits including periods of startup, shutdown, and malfunction:

Table 1 – Emissions Limits

Pollutant	Maximum Annual C&C and O&M, Combined During C&C (tons/rolling 12-months)	Total C&C and O&M, Combined During C&C (tons)	Maximum O&M (tons/rolling 12-months)
NOx	616	1380	25
CO	149	344	24
PM-10	20	45	0.66
PM-2.5	19	44	0.65
VOC	11	26	2
SO_2	2	4	0.07
Pb	0.003	0.007	0
GHG (as CO_2e)	41,673	95,898	6,763

[Note: As stated in the permit application, the Permittee has not designed the electric requirements for the WTGs and OSSs, and therefore has not determined whether sulfur hexafluoride (SF-6) will be used to insulate electrical equipment. As a result, if this material is used in the future as described, the Permittee will be required to assess the potential for SF-6 fugitive emissions, notify the Department, and adjust the GHG (as CO_{2e}) emission estimates, accordingly.**]**

Since US Wind, Inc. has not yet contracted for the vessels it will require for the Maryland Offshore Wind Project, US Wind, Inc. used representative vessels and marine engines to calculate the project's potential emissions. Prior to commencement of construction (C&C) and commencement of operation (O&M), US Wind, Inc. must demonstrate initial compliance by submitting a report that includes all vessels and engines selected and applicable emissions estimates. US Wind, Inc. must show that the selected vessels and engines meet the applicable air quality requirements listed in Section VI, B below and must calculate emissions in accordance with the Department specified procedures outlined in the PTC. US Wind, Inc. must keep records of all vessels and engines and associated emissions and submit quarterly reports throughout the lifetime of the project.

B. Applicable Air Quality Requirements

The Maryland Offshore Wind Project must comply with all applicable requirements of the PSD and NSR Approvals and the PTC. The PSD Approval requirements are specific to the emissions of NO_2, CO, PM-10, and PM-2.5 and apply BACT limits for these pollutants to OCS sources. The NSR Approval requirements are specific to emissions of NOx and apply LAER to OCS sources and emissions offset requirements for O&M emissions.

The PTC includes requirements for all of the pollutants covered by the PSD and NSR Approvals but also extends those requirements to emissions of VOC, SO_2, lead (Pb), and greenhouse gases. The PTC also includes requirements that apply to sources associated with the Maryland Offshore Wind Project, regardless of whether the source is an OCS source or not.

All of the engines associated with the project must meet federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subpart IIII for Stationary Internal Combustion Engines and federal National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subpart ZZZZ for Reciprocating Internal Combustion Engines. US Wind, Inc. meets the NESHAP requirements for each engine by meeting the NSPS requirements of 40 CFR 60, Subpart IIII.

NSPS Limits

US Wind, Inc. shall comply with the following NSPS requirements for the Maryland Offshore Wind Project:

(a) All vessels contracted by the Permittee shall be equipped with marine engines (main and auxiliary) that meet the most stringent, applicable EPA Tier or MARPOL Annex VI emissions standard available at the time the marine vessel is hired for the specific work required in the timeframe required. Marine vessels with the next highest-tier engines may be hired and deployed, if the Permittee documents the basis for its conclusion that the highest-tier vessel, and any other higher-tiered vessels, are not available. The engines may also meet the next most stringent emission standards if the total emissions associated with the use of a vessel with an engine(s) that meet the most stringent emission standards would be greater than the total emissions associated with the use of the vessel with an engine(s) that meet the next most stringent emission standards.

For purposes of this subparagraph, when determining the total emissions associated with the use of a vessel with a particular engine, the Permittee shall include the emissions of the vessel that would occur when the vessel would be in transit to the OCS source from the vessel's starting location.

(b) Each main and auxiliary marine engine on Crew Transfer Vessels shall be certified to EPA Tier 4 emission standards for engines greater than 600 kW and EPA Tier 3 emission standards for engines 600 kilowatts or less.

(c) Other than Crew Transfer Vessels, each Category 1 main and auxiliary marine engine of a vessel shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.101, meeting Tier 2 requirements at the minimum.

(d) Other than Crew Transfer Vessels, each Category 2 main and auxiliary marine engine shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.101, meeting Tier 2 requirements at the minimum.

(e) Other than Crew Transfer Vessels, each Category 3 main and auxiliary marine engine shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.104, meeting Tier 2 requirements at the minimum.

(f) Other than Crew Transfer Vessels, for marine engines (main and auxiliary) onboard foreign-flagged marine vessels, each engine shall be certified to the applicable engine emission standard specified in 40 CFR §1043, meeting MARPOL Annex VI requirements at the minimum.

(g) For Non-Marine Engines, Portable Diesel Generator Engines used during C&C and O&M, the Permittee shall ensure that each of the portable diesel generator engines is certified to meet the EPA Tier 4 emission standard from 40 CFR §1039, that applies to each engine.

(h) For Permanent Diesel Generator Engines on OSS during O&M, the Permittee shall ensure that each of the portable diesel generator engines is certified to meet the EPA Tier 4 emission standard from 40 CFR §1039, that applies to each engine.

[Ref: 40 CFR §60.4201 and §60.4204]

US Wind, Inc. has not yet contracted for the vessels it will require for the Maryland Offshore Wind Project. The ability for US Wind, Inc. to contract for specific vessels will depend on the pool of vessels that are available on the timeline needed for deployment. Due to this uncertainty, the PTC requires that all vessels contracted by US Wind, Inc. be equipped with marine engines (main and auxiliary) that meet the most stringent, applicable EPA Tier or MARPOL Annex VI emissions standard available at the time the marine vessel is hired for the specific work required in the timeframe required. US Wind, Inc. must document which vessels and engines were available during the time of contract deployment and demonstrate that the engines meeting the most stringent requirements were used. In addition, the engines must meet minimum standards regardless of availability. For Crew Transfer Vessels, the minimum standards are more stringent than other vessels since these vessels will transport crew continuously and travel extensively throughout the C&C and O&M phases of the Maryland Offshore Wind Project, and Crew Transfer Vessels meeting these stringent requirements are currently readily available.

For the non-marine portable diesel generator engines used during C&C and O&M and for the permanent diesel generator engines on the four (4) OSS used during O&M, the Permittee shall ensure that each of the engines is certified to meet the EPA Tier 4 emission standard from 40 C.F.R. § 1039, that applies to each engine. Non-marine engines meeting these requirements are readily available and US Wind, Inc. can obtain these engines directly.

Additional NSPS Requirements

US Wind, Inc. must operate and maintain all engines for the Maryland Offshore Wind Project that achieve the emission standards as required by 40 CFR 60, Subpart IIII in accordance with manufacturer specifications. All of the engines must be certified, installed, and configured to the manufacturer's emission-related specifications. US Wind, Inc. must keep records of all certifications, emissions-related data, and maintenance conducted on the engines.

US Wind, Inc. shall comply with the following fuel requirements for the Maryland Offshore Wind Project:

(a) The Permittee shall use ultra-low-sulfur diesel (ULSD) fuel in all Category 1 and 2 engines, Non-Marine Engines, Portable Diesel Generator Engines used during C&C and O&M, and Permanent Diesel Generator Engines on OSS during O&M that meets the per-gallon standards below.

(i) a maximum sulfur content of 15 parts per million (ppm); and
(ii) a minimum cetane index of 40; or
(iii) maximum aromatic content of 35 volume percent.

(b) The Permittee shall use fuel with a maximum sulfur content of 1000 ppm in all Category 3 engines.

Compliance with these fuel requirements demonstrates compliance with the NSPS fuel requirements of 40 CFR §60.4207(b) and (d). US Wind, Inc. must keep records of daily fuel use, in units of gallons per day, for each engine associated with the Maryland Offshore Wind Project and records of fuel supplier certifications for all fuelings to demonstrate compliance with all applicable fuel sulfur content limitations,

Good Combustion Practices
For the Maryland Offshore Wind Project, the Permittee shall develop and implement a plan that will ensure good combustion practices and combustion efficiency, per manufacturer recommendations. The Good Combustion Practices and Combustion Efficiency Plan shall include practices to minimize engine idling, a summary of the good combustion practices for each engine, a preventative maintenance schedule, and any additional information as deemed necessary by the Department.

The Good Combustion Practices and Combustion Efficiency Plan shall be submitted to the Department for review and approval. Construction shall not commence until the Permittee receives approval of the Good Combustion Practices and Combustion Efficiency Plan from the Department in writing.

Compliance with Air Toxics Regulations – The air pollution emissions sources associated with the Maryland Offshore Wind Project are fuel burning engines. Fuel burning equipment are not subject to Maryland toxic air pollutant regulations per COMAR 26.11.15.03. However, the Maryland Offshore Wind Project is subject to federal control of HAP under 40 CFR 63, Part ZZZZ as described in Section VII, B above and premises wide emissions of HAP are not expected to exceed the federal major source thresholds of 10 tons per year of a single HAP and 25 tons for total HAP.

VIII. TENTATIVE DETERMINATION

Based on the above information, the Department has concluded that the proposed Maryland Offshore Wind Project will comply with all applicable Federal and State air quality control requirements and has made a tentative determination to issue the Permit to Construct.

Wes Moore
Governor

Aruna Miller
Lt. Governor

Serena McIlwain
Secretary

Air and Radiation Administration
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

[X] Construction Permit [ ] Operating Permit

PERMIT NO.	As Listed on Page 2	DATE ISSUED	TBD
PERMIT FEE	$57,000.00 (Paid)	EXPIRATION DATE	In accordance with COMAR 26.11.02.04B

LEGAL OWNER & ADDRESS

US Wind, Inc.
401 East Pratt Street
Baltimore, MD, 21201
Attn: Mr. Jeffrey Grybowski, CEO
US Wind, Inc.

SITE

Maryland Wind Energy Area (WEA)
Atlantic Ocean,
Offshore, Ocean City, Maryland
Lat 38.352747º N; Long 74.753546º W
Premises # 047-0248
AI # 153737

SOURCE DESCRIPTION

Installation of a wind energy project (Maryland Offshore Wind Project), in a lease area of approximately 18.5 km (11.5 miles, 10.0 nautical miles [NM]) off the coast of Maryland on the outer continental shelf (OCS) consisting of up to 121 wind turbine generators (WTG), up to four (4) offshore substations (OSS), and one (1) meteorological tower (Met Tower).

This source is subject to the conditions described on the attached pages.

Program Manager

Director, Air and Radiation Administration

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This permit-to-construct is issued to cover the Maryland Offshore Wind Project as regulated under 40 CFR, Part 55. The sources are categorized based on date of occurrence as follows:

ARA Registration No.	Description	Anticipated Installation/Operation Dates
047-0248-9-0111	Year 1 – Construction & Commissioning	2025
047-0248-9-0112	Year 2 – Construction & Commissioning	2026
047-0248-9-0113	Year 3 – Construction & Commissioning	2027
047-0248-9-0114	Total Operations and Maintenance – Years 2 and beyond	2026

Part A – Definitions

AQRV means Air Quality Related Values.

ARA means Maryland Department of the Environment Air and Radiation Administration. Also referred to as MDE-ARA.

Best Available Control Technology ("BACT") is an emissions limitation which is based on the maximum degree of control that can be achieved. It is a case-by-case decision that considers energy, environmental, and economic impact. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible.

BOEM means Bureau of Ocean Energy Management.

Category 1 means relating to a marine engine with specific engine displacement below 7.0 liters per cylinder. Category 1 for marine engines is defined at 40 C.F.R. § 1042.901 (“Definitions”).

Category 2 means relating to a marine engine with a specific engine displacement at or above 7.0 liters per cylinder but less than 30.0 liters per cylinder. Category 2 for marine engines is defined at 40 C.F.R. § 1042.901 (“Definitions”).

Category 3 means relating to a reciprocating marine engine with a specific engine displacement at or above 30.0 liters per cylinder. Category 3 for marine engines is defined at 40 C.F.R. § 1042.901 (“Definitions”).

Centroid means the center of the Wind Development Area.

CFR means Code of Federal Regulations.

COMAR means Code of Maryland Regulations.

Commence construction refers to commencing construction within the Wind Development Area. This is the date on which the owner or operator has all necessary preconstruction approvals or permits and has either:

(1) Begun, or caused to begin, a continuous program of actual construction, to be completed within a reasonable time as determined by MDE; or

(2) Entered into binding agreement or contractual obligation, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction to be completed within a reasonable time as determined by MDE.

Consecutive Rolling 12-Month Period means the 12-month period, recalculated for each calendar month, which includes that month and the 11 months prior.

Construction and Commissioning Phase, or *C&C*, begins on the C&C Start Date and ends when the last wind turbine generator (“WTG”) to be constructed begins producing commercial power.

Construction and Commissioning Phase Start Date, or *C&C Start Date*, is the first day any vessel, equipment, or activity, that meets the definition of an Outer Continental Shelf “OCS” source, operates, occurs, or exists in the Wind Development Area.

Construction and Operations Plan (COP). The COP describes the construction, operations, and conceptual decommissioning plans under the commercial lease, including the project easement. [30 CFR 585.620 et seq.]

Corresponding Onshore Area ("COA") means, with respect to any existing or proposed Outer Continental Shelf (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 40 C.F.R. § 55.5.

Crew Transfer Vessels means all self-propelled vessels that are not Ocean-going Vessels and are used for carrying personnel to and from off-shore and in-harbor locations (including, but not limited to, off-shore work platforms, construction sites, and other vessels) from the staging area to the WDA.

Daily Emissions means the facility-wide emissions of a given pollutant in a day from all emission sources at the OCS Facility and emissions from vessels servicing or associated with the OCS Facility while enroute to or from the OCS Facility when within 25 nautical miles ("NM") of the OCS Facility.

Day means a calendar day, including weekends and federal/state holidays.

DNREC means Delaware Department of Natural Resources and Environmental Control.

EIAPP means Engine International Air Pollution Prevention.

Engine load factor (%) means the engine daily load factor for a given marine or non-marine engine calculated as follows:

(1) For each marine engine of a marine vessel, the daily load factor (%) shall be calculated and recorded daily by dividing the actual daily fuel use rate (gallons/day, over a 24-hour period) of a specific vessel by the maximum daily fuel rate for the vessel (gallons/day, assuming all vessel engines operating at their maximum rated kW power for 24 hours/day). The calculated daily load factor (%) shall apply to each marine engine of that vessel.

(2) For each non-marine engine used to power OSSs and WTGs during C&C and the permanent non-marine engines on the OSSs during O&M, the daily load factor (%) shall be calculated and recorded daily by dividing the actual daily fuel use rate (gallons/day, over a 24-hour period) of a specific engine by the maximum daily fuel rate for that engine (gallons/day, assuming engine operating at its maximum rated kW power for 24 hours/day). The calculated daily load factor (%) shall apply to each nonmarine engine.

EPA means United States (U.S.) Environmental Protection Agency. Also referred to as USEPA.

EPA-certified means has obtained a certificate of conformity for an engine family that complies with the emission standards and requirements in the standard-setting part.

ERC means Emissions Reduction Credit.

Foreign-flagged vessel means a vessel of foreign registry, or a vessel operated under the authority of a country other than the United States.

GHG means Greenhouse Gas.

Harbor Craft ("HC"), also called *"Commercial Harbor Craft",* means any private, commercial, government, or military marine vessel including, but not limited to, passenger ferries, excursion vessels, tugboats, ocean-going tugboats, towboats, push-boats, crew, and supply vessels, work boats, pilot vessels, supply boats, fishing vessels, research vessels, U.S. Coast Guard vessels, hovercraft, emergency response harbor craft, and barge vessels that do not otherwise meet the definition of ocean-going vessels or recreational vessels.

IAPP means International Air Pollution Prevention.

International Air Pollution Prevention ("IAPP")-certified means has obtained a certificate that documents compliance with MARPOL Annex VI.

Lowest Achievable Emissions Rate ("LAER") means the most stringent emission limitation contained in the implementation plan of any State for such class or category of source, or the most stringent emission limitation achieved in practice by such class or category of source.

LSMGO ("LSMGO" or "low sulfur marine diesel fuel oil") means diesel fuel with a maximum sulfur content of 1,000 ppm.

Marine engine means a nonroad engine that is installed or intended to be installed on a marine vessel (marine engine is defined at 40 C.F.R. § 1042.901). This includes a portable auxiliary marine engine only if its fueling, cooling, or exhaust system is an integral part of the vessel. A fueling system is considered integral to the vessel only if one or more essential elements are permanently affixed to the vessel. There are two kinds of marine engines:

(1) Propulsion marine engine, or 'main' engine, means a marine engine that moves a vessel through the water or directs the vessel's movement.

(2) Auxiliary marine engine means a marine engine not used for propulsion.

MARPOL means The International Convention for the Prevention of Pollution from Ships.

Maryland Offshore Wind Project means the activities and emission sources that will occur within the BOEM Lease Area OCS-A 0490, as well as marine vessels while en route to and from the OCS location of the project when within 25 nautical miles of the OCS Lease Area's boundary and as regulated under 40 CFR, Part 55; which will include approximately 2 gigawatts of nameplate capacity within the OCS Lease Area and up to 121 wind turbine generators, up to four (4) offshore substations, and one (1) meteorological tower, interconnected to the onshore electric grid by up to four (4) 230-275 kV export cables into onshore substations in Delaware.

NAAQS means National Ambient Air Quality Standards.

Nautical Mile ("NM") is a unit of length defined as 1.1508 statute miles.

Nearest Onshore Area ("NOA") means, with respect to any existing or proposed OCS source, the onshore area that is geographically closest to that source." [Ref: 40 C.F.R. § 55.2].

NSR means Non-Attainment New Source Review.

NWR means National Wildlife Refuge.

Ocean-going Vessel means a commercial, government, or military vessel meeting any one of the following criteria:

(1) a vessel greater than or equal to 400 feet in length overall as defined in 50 C.F.R. § 679.2, as adopted June 19, 1996;

(2) a vessel greater than or equal to 10,000 gross tons per the convention measurement (international system) as defined in 46 C.F.R. 69.51-.61, as adopted September 12, 1989; or

(3) a vessel propelled by a marine compression-ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.

OCS means Outer Continental Shelf.

OCS Facility means the entire wind development area once the first OCS source is established in a wind development area. The first OCS source is established once any equipment or activity that meets the definition of an OCS source is located within a wind development area.

OCS Lease Area means the area within the designated Renewable Energy Lease Area OCS-A 0490, awarded by the Bureau of Ocean Energy Management ("BOEM") and located about 10.0 nautical miles (11.5 statute miles) off the coast of Maryland.

OCS Lease Area Boundary means the boundaries of the lease area as defined by the BOEM lease.

OCS Source means any equipment, activity, or facility which:

(1) Emits or has the potential to emit any air pollutant;

(2) Is regulated or authorized under the Outer Continental Shelf Lands Act ("OCSLA") [Ref: 43 U.S.C. § 1331 *et seq*.]; and

(3) Is located on the OCS or in or on waters above the OCS.

This definition shall include vessels only when they are:

(1) Permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources therefrom, 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 sources aspects of the vessels will be regulated.

Offshore Substation ("OSS") means a common interconnection point for power generated by the Wind Turbine Generators that increases the voltage for transmission to the onshore electrical grid.

Operation and Maintenance Phase, or *O&M*, is the period that begins on the operation and maintenance phase start date.

Operation and Maintenance Phase Start Date, or *O&M Start Date*, is the first day the Maryland Offshore Wind Project produces commercial power.

Permittee includes US Wind, Inc.; its successor(s) that operate the permitted project; its contractors; and any agents or parties acting on its behalf that conduct activities regulated by this permit, including but not limited to vessel, barge, and equipment operation.

Potential to emit means the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the 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 part of its design if the limitation or the effect it would have on emissions is enforceable as a practical matter.

PSD means Prevention of Significant Deterioration.

"Responsible official" means one of the following:

(1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or another person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of that person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(a) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25,000,000 in second quarter 1980 dollars, or

(b) The delegation of authority to the representative is approved in advance by the Department;

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(3) For a municipal, State, federal, or other public agency: either a principal executive officer or ranking elected official; for the purposes of this chapter and COMAR 26.11.03, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency, for example a regional administrator of EPA; or

(4) For affected sources:

(a) The designated representative insofar as actions, standards, requirements, or prohibitions concerning acid rain emissions under Title IV of the Clean Air Act or the regulations promulgated under it; and

(b) The designated representative for any other purpose under this chapter or COMAR 26.11.03. [COMAR 26.11.02.01(47)]

Tier 1 means relating to the Tier 1 emission standards, as shown in Appendix I to 40 C.F.R. Part 1042.

Tier 2 means relating to the Tier 2 emission standards, as shown in 40 C.F.R. § 1042.104 and Appendix I to 40 C.F.R. Part 1042.

Tier 3 means relating to the Tier 3 emission standards, as shown in 40 C.F.R. § 1042.101 and § 1042.104.

Tier 4 means relating to the Tier 4 emission standards, as shown in 40 C.F.R. § 1042.101.

Ultra-low sulfur diesel ("*ULSD*") means diesel fuel that is certified to meet the standards in 40 C.F.R. § 1090.305.

U.S.-flagged vessel means a vessel of U.S. registry, or a vessel operated under the authority of the United States.

USC and U.S.C. mean United States Code.

Wind Development Area ("*WDA*") is the designated Renewable Energy Lease Area OCS-A 0490, awarded by BOEM, located on the OCS. The project lease area is approximately 79,707 acres. At its closest point the WDA is approximately 10.0 nautical miles (11.5 statute miles) from the Maryland shoreline. Note that the term WDA is used before an individual OCS source is established. Once the first OCS source is established in the WDA, the entire WDA is considered the OCS Facility.

*Wind Turbine Generator ("*WTG") means equipment used to generate electricity from wind.

Part B – Project Sources

The information provided in Tables 1 and 2 is for description purposes and does not establish operating limits.

Table 1A – Types of marine vessels, and associated main and auxiliary marine engines, to be used during Construction and Commissioning (C&C)

Vessel Types to be used for Scour Protection Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kilowatts (kW)/engine)**
Fallpipe Vessel (HC)	1	Main engines (3): 4,500 Auxiliary engines (1): 492 Auxiliary engines (1): 1,200
Vessel Types to be used for Foundation Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Heavy Lift Vessel (HC)	1	Main engines (5): 4,500 Auxiliary engine (1): 4,500
Foundation Installation Tugs (HC)	4	Main engines (2): 2,540 Auxiliary engine (1): 199
Crew Transfer Vessel (HC)	1	Main engines (2): 749 Auxiliary engine (2): 20
Noise Mitigation Offshore Service Vessel (HC)	1	Main engines (2): 3,310 Auxiliary engines (3): 499
Acoustic Monitoring Offshore Service Vessel (HC)	1	Main engines (2): 2,540 Auxiliary engine (1): 199
Environmental Crew Transfer Vessel (HC)	2	Main engines (2): 749 Auxiliary engine (2): 20
Vessel Types to be used for WTG Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Jack-up Vessel (HC) **[OCS Source]**	1	Main engines (3): 3,800 Auxiliary engines (1): 2,880
Tugs (HC)	3	Main engines (2): 2,540 Auxiliary engines (1): 199

Table 1A – Types of marine vessels, and associated main and auxiliary marine engines, to be used during C&C (continued)

Vessel Types to be used for WTG Commissioning	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Commissioning Crew Transfer Vessels (HC)	3	Main engines (2): 749 Main engines (2): 20
Vessel Types to be used for OSS Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Heavy Lift Vessel (HC)	1	Main engines (5): 4,500 Auxiliary engines (1): 4,500
Tug (HC)	2	Main engines (2): 2,540 Auxiliary engines (1): 199
Noise Mitigation Offshore Service Vessel (HC)	1	Main engines (2): 3,310 Auxiliary engines (3): 499
Acoustic Monitoring Offshore Service Vessel (HC)	1	Main engines (1): 2,500 Auxiliary engines (1): 199
Topside Tug (HC)	1	Main engines (2): 2,540 Auxiliary marine engines (1): 199
Refueling Offshore Service Vessel (HC)	1	Main engines (2): 749 Auxiliary engine (2): 20
Hotel Jack-up Vessel (HC) **[OCS Source]**	1	Main engines (2): 2,350 Auxiliary engine (2): 1,000
Vessel Types to be used for Array Cable Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Cable Lay Vessel (HC)	1	Main engines (3): 1,750 Auxiliary engine (1): 1,750
Offshore Support Vessel (HC)	1	Main engines (1): 1,611 Auxiliary engine (2): 123
Crew Transfer Vessel (HC)	2	Main engines (2): 749 Auxiliary engine (2): 20
Trenching Vessel (HC)	1	Main engines (5): 3,000 Auxiliary engine (1): 3,000
Guard Crew Transfer Vessel (HC)	1	Main engines (2): 749 Auxiliary engine (2): 20

Table 1A – Types of marine vessels, and associated main and auxiliary marine engines, to be used during C&C (continued)

Vessel Types to be used for Export Cable Installation	**Number of Vessels of this Type**	**Marine Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Cable Lay Vessel (HC)	1	Main engines (3): 1,750 Auxiliary engine (1): 1,750
Multipurpose Offshore Support Vessel (HC)	1	Main engines (1): 1,611 Auxiliary engine (2): 123
Trenching Vessel (HC)	1	Main engines (5): 3,000 Auxiliary engine (1): 3,000
Horizontal Directional Drilling Lift Vessel (HC)	1	Main engines (2): 2,350 Auxiliary engine (2): 1,000
Horizontal Directional Drilling Pull-In Vessel (HC)	1	Main engines (1): 1,611 Auxiliary engine (2): 123
Pull-In Support Vessel (HC)	1	Main engines (2): 392 Auxiliary engine (2): 135
Vessel Types to be used for Met Tower Installation	**Number of Vessels of this Type**	**Marine Engines: Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Heavy Lift Vessel (HC)	1	Main engines (5): 4,500 Auxiliary engine (1): 4,500
Tugs (HC)	3	Main engines (2): 2,540 Auxiliary engines (1): 199
Noise Mitigation Offshore Service Vessel (HC)	1	Main engines (2): 3,310 Auxiliary engines (3): 499
Acoustic Monitoring Offshore Service Vessel (HC)	1	Main engines (2): 2,540 Auxiliary engines (1): 199
Refueling Offshore Service Vessel (HC)	1	Main engines (2): 749 Auxiliary engine (2): 20
Hotel Jack-up Vessel (HC) **[OCS Source]**	1	Main engines (2): 2,350 Auxiliary engine (2): 1,000

Table 1B. Types of marine vessels, and associated main and auxiliary marine engines, to be used during Operations and Maintenance (O&M)

Vessel Types to be used for Offshore Marine Operations	Number of Vessels of this Type	Marine Vessel Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)
Fallpipe Vessel (Scour Protection Repairs) (HC)	1	Main engines (3): 4,500 Auxiliary engines (1): 492 Auxiliary engines (1): 1,200
Crew Transfer Vessel (OSS O&M Refueling Operations) (HC)	1	Main engines (2): 749 Auxiliary engines (2): 20
Jack-Up Vessel (WTG Inspection/Maintenance/Repairs Main Repair Vessel) (HC) **[OCS Source]**	1	Main engines (2): 2,350 Auxiliary engines (2): 1,000
Survey Vessel (WTG Inspection/Maintenance/Repairs Multi-role Survey Vessel) (HC)	1	Main engines (2): 392 Auxiliary engines (2): 135
Vessel Types to be used for Offshore Maintenance	**Number of Vessels of this Type**	**Marine Vessel Engines (per each vessel): Type (Main or Auxiliary), Number & Maximum Engine Power (kW/engine)**
Survey Vessel (Cable Inspection/Repairs Multi-role Survey Vessel) (HC)	1	Main engines (2): 392 Auxiliary engines (2): 135
Crew Transfer Vessel (Daily O&M and Miscellaneous) (HC)	4	Main engines (2): 749 Auxiliary engines (2): 20
Sportfisher (Daily O&M and Miscellaneous) (HC)	1	Main engines (2): 749 Auxiliary engines (2): 20

Table 2A – Non-Marine Engines – Portable Diesel Generator Engines used during C&C

Activity	Engine Description	Number of Engines	Maximum Engine Power (kW)
OSS Installation	OSS Installation Generator Engine **[OCS Source]**	4	150

Table 2B - Non-Marine Engines – Portable Diesel Generator Engines used during O&M

Activity	Engine Description	Number of Engines	Maximum Engine Power (kW)
Daily O&M and Miscellaneous (Electrical Service)	Generator Engine **[OCS Source]**	4	150

Table 2C. Non-Marine Engines – Permanent Diesel Generator Engines used during O&M

Activity	Engine Description	Number of Engines	Maximum Engine Power (kW)
OSS	OSS Generator Engine **[OCS Source]**	4	150

Part C – General Provisions

(1) The following Air and Radiation Administration (ARA) permit-to-construct applications and supplemental information are incorporated into this permit by reference:

(a) Application for Prevention of Significant Deterioration (PSD) Approval received on August 17, 2023 (hardcopies received on September 3, 2023), with revised application received November 30, 2023 (hardcopies received on December 7, 2023) for the construction of the Maryland Offshore Wind Project.

(b) Application for Non-Attainment New Source Review (NA-NSR) Approval received on August 17, 2023 (hardcopies received on September 3, 2023), with revised application received November 30, 2023 (hardcopies received on December 7, 2023) for the construction of the Maryland Offshore Wind Project.

(c) Application for Fuel Burning Equipment (Form 11) for the following vessels supporting the construction and/or operation of the Maryland Offshore Wind Project: Foundation Installation Fallpipe Vessel; Foundation Installation Heavy Lift Vessel; Foundation Installation Tugs; Foundation Installation Crew Transfer Vessel; Foundation Installation Offshore Support Vessel Noise Vessels; Foundation Installation Environmental Crew Transfer Vessels; Wind Turbine Generator Installation Jack-up vessel; Wind Turbine Generator Installation Tugs; Wind Turbine Generator Commissioning Crew Transfer Vessels; Offshore Substation Installation Heavy Lift vessel; Offshore Substation Installation Tug; Offshore Substation Installation Offshore Support Vessel; Offshore Substation Installation Topside Tug; Offshore Substation Installation Refueling Offshore Support Vessel; Offshore Substation Installation Hotel Jack-up vessel; Array Cable Lay vessel; Array offshore support vessel; Array Crew Transfer Vessel; Array trenching vessel; Array guard vessel; Export Cable lay vessel; Export Cable Multipurpose Offshore Support Vessel; Export Cable Trenching Vessel; Export Cable Horizontal Directional Drilling Lift Vessel; Export Cable Horizontal Directional Drilling pull in Vessel; Export Cable pull in support vessel; Operation Scour Protection Repair Vessel; Operation Refueling Vessel; Operation Main Repair Vessel; Operation survey vessel; Operation Crew Transfer Vessel; and the Operation Environmental Monitoring Vessel, received on August 17, 2023 with revised forms received November 30, 2023.

(d) Application for Internal Combustion Engines (Form 44) received on August 17, 2023 (hardcopies received on September 3, 2023) with revised form received November 30, 2023 (hardcopies received on December 7, 2023) for the construction/installation of four (4) 150 kW electric generators, each to be located on the four Offshore Substations.

(e) Supplemental Information
  (i) Air Quality Impact Analysis for 24-hour PM-10, annual PM-2.5, 1-hour and annual NO_2 Impacts received on August 17, 2023, and revised copies on November 30, 2023;
  (ii) response to the Department's Supplemental Request for Additional Information for OCS Air Permit (i.e., revised Section 5, and revised Appendix A) received January 5, 2024;

(iii) Class I AQRV Assessment Modeling Protocol, received on May 23, 2024;
(iv) Class I AQRV Assessment Modeling Report, received on July 31, 2024;
(v) revised potential to emit emission calculations, received on September 20, 2024, for air pollutants originating from various marine vessels, each powered by their own diesel engine and other construction equipment all servicing the construction and operation of the Maryland Offshore Wind Project using the EPA's "Ports Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions", EPA-420-B-22-011, April 2022; and
(vi) narrative on vessel selection criteria and information on the assumption taken to support the facility wide potential to emit, received November 6, 2024.

If there are any conflicts between representations in this permit and representations in the applications, the representations in the permit shall govern. Estimates of dimensions, volumes, emissions rates, operating rates, feed rates and hours of operation included in the applications do not constitute enforceable numeric limits beyond the extent necessary for compliance with applicable requirements.

(2) Upon presentation of credentials, representatives of the Maryland Department of the Environment ("MDE" or the "Department"), the EPA, and the Worcester County Health Department shall at any reasonable time be granted, without delay and without prior notification, access to the Permittee's property and permitted to:

(a) inspect any construction authorized by this permit;

(b) sample, as necessary to determine compliance with requirements of this permit, any materials stored or processed on-site, any waste materials, and any discharge into the environment;

(c) inspect any monitoring equipment required by this permit;

(d) review and copy any records, including all documents required to be maintained by this permit, relevant to a determination of compliance with requirements of this permit;

(e) obtain any photographic documentation or evidence necessary to determine compliance with the requirements of this permit; and

(f) the Department may exercise its right of entry through use of an unmanned aircraft system to conduct inspections, collect samples, or make visual observations through photographic or video recordings.

(3) The Permittee shall notify the Department prior to increasing quantities and/or changing the types of any materials referenced in the application or limited by this permit. If the Department determines that such increases or changes constitute a modification, the Permittee shall obtain a permit-to-construct prior to implementing the modification.

(4) Nothing in this permit authorizes the violation of any rule or regulation or the creation of a nuisance or air pollution.

(5) If any provision of this permit is declared by proper authority to be invalid, the remaining provisions of the permit shall remain in effect.

(6) This permit-to-construct is issued in conjunction with the non-attainment New Source Review (NSR) Approval No. NSR-2024-01 and the Prevention of Significant Deterioration (PSD) Approval No. PSD-2024-01.

(7) Subsequent to issuance of this permit, the Department may impose additional and modified requirements that are incorporated into a State permit-to-operate issued pursuant to COMAR 26.11.02.13.

(8) In accordance with COMAR 26.11.03.01, the Permittee shall submit to the Department a complete application for a Title V Operating Permit (Part 70) within twelve months of the commencement of operation of the Maryland Offshore Wind Project.

(9) Any notifications, records, reports, plans, and documents referenced in this permit-to-construct shall be made available to the EPA as specified in this permit-to-construct or upon request by the EPA.

Part D – Applicable Regulations

(1) The Maryland Offshore Wind Project is subject to all applicable federal air pollution control requirements including, but not limited to, the following:

(a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subparts A and Subpart IIII for Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE).

(b) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in the National Emissions Standards for Hazardous Air Pollutants (NESHAP) promulgated under 40 CFR 63, Subparts A and Subpart ZZZZ for Standard of Performance for Reciprocating Internal Combustion Engines (RICE).

Note: The Permittee will meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII.

(c) All reports and notifications required under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, respectively, shall be submitted to the following:

The Administrator
Compliance Program
Maryland Department of the Environment
Air and Radiation Administration
1800 Washington Boulevard, STE 715
Baltimore MD 21230

and

United States Environmental Protection Agency
Region III, Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch (3ED21)
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-2852

(2) The Maryland Offshore Wind Project subject to all applicable federally enforceable State air pollution control requirements including, but not limited to, the following regulations:

(a) COMAR 26.11.02.04B – Permits to Construct and Approvals.

"A permit to construct or an approval expires if, as determined by the Department:

(i) Substantial construction or modification is not commenced within 18 months after the date of issuance of the permit or approval, unless the Department specifies a longer period in the permit or approval;

(ii) Construction or modification is substantially discontinued for a period of 18 months after the construction or modification has commenced; or

(iii) The source for which the permit or approval was issued is not completed within a reasonable period after the date of issuance of the permit or approval."

(b) COMAR 26.11.02.09A – Sources subject to Permits to Construct and Approval.

"A person may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits to construct and approvals: (6) All sources, including installations and air pollution control equipment, except as listed in Regulation.10 of this chapter ---- permit to construct required."

(c) COMAR 26.11.02.13A – Sources Subject to State Permits to Operate. "Except for a source that is covered by a Part 70 permit, a person may not operate or cause to be operated any of the following source without first obtaining, and having in current effect, a State permit to operate as required by this regulation: (61) Any other source that the Department determines has the potential to have a significant impact on air quality."

(d) COMAR 26.11.02.19C – Information Required to be Maintained by a Source.

"(1) Beginning January 1, 1994, the owner or operator of a source for which a permit to operate is required shall maintain records necessary to support the emission certification, including the following information:

(a) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(b) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(c) Amounts, types, and analyses of all fuels used;
(d) Emission data from continuous emission monitors that are required by this subtitle or EPA regulations, including monitor calibration and malfunction information;
(e) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment, including significant maintenance performed, malfunctions and downtime, and episodes of reduced efficiency of this equipment;
(f) Limitations on source operation or any work practice standards that significantly affect emissions; and
(g) Other relevant information as required by the Department.

(2) The logs and other records of information required by §C(1) of this regulation shall be retained for a period of 5 years and made available to the Department upon request.

(3) If the owner or operator of a source for which a permit to operate is required fails to maintain or provide the data required by this section, which the Department requests in order to verify the emissions during the previous calendar year, the annual emission-based fee for that source shall be based on the estimated allowable emissions, as defined in COMAR 26.11.01.01B(4), of that source, as determined by the Department."

(e) COMAR 26.11.02.19D – Emission Certification.

"(1) The responsible official designated by the owner or operator of a source for which a permit to operate is required shall certify, as provided at Regulation .02F of this chapter, the actual emissions of regulated air pollutants from all installations at the plant or facility.

(2) Certification shall be on a form obtained from the Department and shall be submitted to the Department not later than April 1 of the year following the year for which certification is required."

(f) COMAR 26.11.03.02 – Applications for Part 70 Permits.

A. General Requirement.

"A person who owns or operates a source for which a Part 70 permit is required by Regulation .01 of this chapter shall submit a timely and complete application for an initial permit or renewal of an existing permit on forms provided by the Department and in accordance with this regulation."

(g) COMAR 26.11.06.08 – Nuisance.
"An installation or premises may not be operated or maintained in such a manner that a nuisance or air pollution is created. Nothing in this regulation relating to the control of emissions may in any manner be construed as authorizing or permitting the creation of, or maintenance of, nuisance or air pollution."

(h) COMAR 26.11.06.09 – Odors.
"A person may not cause or permit the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created."

(i) COMAR 26.11.06.12 – Control of NSPS Source.
"A person may not construct, modify, or operate, or cause to be constructed, modified, or operated, a New Source Performance Standard (NSPS) source as defined in COMAR 26.11.01.01C, which results or will result in violation of the provisions of 40 CFR 60, as amended."

(j) COMAR 26.11.06.14 – Control of Prevention of Significant Deterioration Sources.
COMAR 26.11.06.14B – General Requirements.
"(1) A person may not construct, modify, or operate, or cause to be constructed, modified, or operated, a Prevention of Significant Deterioration (PSD) source, as defined in COMAR 26.11.01.01B(37), which will result in violation of any provision of 40 CFR §52.21, as amended."

(k) COMAR 26.11.09.05E – Visible Emissions Limits for Stationary Internal Combustion Engine Powered Equipment.

"(1) Definitions. For the purpose of this section:

(a) "Idle" means the condition during which the engine is not performing the useful network that enables the piece of equipment to accomplish its designated purpose.

(b) "Internal combustion engine" (hereafter "engine") means all engines except those used for propulsion of ships or vehicles licensed to operate upon the public highway within the State, or engines employed solely for agricultural and recreational purposes unless they are an integral part of a stationary installation.

(2) Emissions During Idle Mode. A person may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(3) Emissions During Operating Mode. A person may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(4) Exceptions.

(a) Section E(2) does not apply for a period of 2 consecutive minutes after a period of idling of 15 consecutive minutes for the purpose of clearing the exhaust system.

(b) Section E(2) does not apply to emissions resulting directly from cold engine start-up and warm-up for the following maximum periods:

(i) Engines that are idled continuously when not in service: 30 minutes;

(ii) All other engines: 15 minutes.

(c) Section E(2) and (3) does not apply while maintenance, repair, or testing is being performed by qualified mechanics."

(l) COMAR 26.11.09.07A – Sulfur Content Limitations for Fuel.
"A person may not burn, sell, or make available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds the following limitations: (1) In Areas I, II, V, and VI: (c) Distillate fuel oils, 0.3 percent."

(m) COMAR 26.11.17.03 – Non-attainment Provisions for Major New Sources. – General Conditions.
COMAR 26.11.17.03A. "A person who proposes to construct or modify and emissions unit subject to this chapter may not commence construction of the emissions unit without first obtaining all permits and approvals required under this subtitle."

COMAR 26.11.17.03B(1), which requires the Permittee to certify that all existing major stationary sources owned and operated by Permittee in Maryland are in compliance with all applicable emissions limitations or are on an approved federally enforceable plan for compliance.

COMAR 26.11.17.03B(2), which requires the Permittee to meet an emission limitation with specifies the lowest achievable emission rate (LAER).

COMAR 26.11.17.03B(3)(b), which requires the Permittee to meet a nitrogen oxides (NOx) emission offset ratio of 1.15:1.

(3) The Maryland Offshore Wind Project is subject to all applicable State-only enforceable air pollution control requirements including, but not limited to, the following regulations:

(4) The Permittee shall comply with all requirements, including emission limitations and standards, specified in the Prevention of Significant Deterioration Approval No. PSD-2024-01.

(5) The Permittee shall comply with all requirements, including emission limitations and standards, specified in the New Source Review Approval No. NSR-2024-01.

Part E – Construction Conditions

(1) Prior to the C&C Start Date, the Permittee shall provide the Department an initial report, for review and approval, that defines each vessel contracted, each anticipated representative vessel, and each marine and non-marine engine to be used during C&C and O&M of the Maryland Offshore Wind Project. The report shall include, at a minimum, the following information:

(a) All the information required by Part H(7)(a), (b), (c), and (d) of this permit;

(b) Updated Potential to Emit estimates and calculations for NOx, CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e) as per the emission estimation methods as required in Part G of this permit.

[Note: As stated in the permit application, the Permittee has not designed the electric requirements for the WTGs and OSSs, and therefore has not determined whether sulfur hexafluoride (SF-6) will be used to insulate electrical equipment. As a result, if this material is used in the future as described, the Permittee will be required to assess the potential for SF-6 fugitive emissions, notify the Department, and adjust the GHG (as CO_{2e}) emission estimates, accordingly.**]**

C&C shall not commence until the Department has approved the report in writing. If the updated potential to emit estimates show that any of these pollutants exceed the thresholds for PSD and NSR review, then the Permittee will be required to perform the appropriate updates to the previous NSR and PSD Approval requests.

(2) For any vessel or non-marine engine substitutions during the life of the Maryland Offshore Wind Project, the Permittee shall provide the information required by Part E(1) of this permit, prior to use of that vessel or engine.

(3) In accordance with 40 CFR §60.4209(b), "if you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached."

Part F – Operating and Monitoring Conditions

(1) Prior to the O&M Start Date, the Permittee shall provide the Department a report, for review and approval, that defines each vessel contracted, and each marine and non-marine engine to be used during O&M of the Maryland Offshore Wind Project. The report shall include, at a minimum, the following information:

(a) All the information required by Part H(7), (a), (b), (c), and (d) of this permit;

(b) Updated Potential to Emit estimates and calculations for NOx, CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e) as per the emission estimation methods as required in Part G of this permit.

(c) A complete application for a temporary permit-to-operate. O&M shall not commence until the temporary permit-to-operate is issued.

(2) The Permittee shall operate the Maryland Offshore Wind Project in accordance with specifications included in the application and any operating procedures recommended by equipment manufacturers unless the Permittee obtains from the Department written authorization for alternative operating procedures.

(3) Total emissions of NOx, CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e) from the Maryland Offshore Wind Project shall be less than the following limits including periods of startup, shutdown, and malfunction:

Table 3 – Emissions Limits

Pollutant	Maximum Annual C&C and O&M, Combined During C&C (tons/rolling 12-months)	Total C&C and O&M, Combined During C&C (tons)	Maximum O&M (tons/rolling 12-months)
NOx	616	1380	25
CO	149	344	24
PM-10	20	45	0.66
PM-2.5	19	44	0.65
VOC	11	26	2
SO_2	2	4	0.07
Pb	0.003	0.007	0
GHG (as CO_2e)	41,673	95,898	6,763

(4) The Permittee shall comply with the following NSPS requirements for the Maryland Offshore Wind Project:

(a) Vessels contracted by the Permittee shall be equipped with marine engines (main and auxiliary) that meet the most stringent, applicable EPA Tier or MARPOL Annex VI emissions standard available at the time the marine vessel is hired for the specific work required in the timeframe required. Marine vessels with the next highest-tier engines may be hired and deployed, if the Permittee documents the basis for its conclusion that the highest-tier vessel, and any other higher-tiered vessels, is not available. The engines may also meet the next most stringent emission standards if the total emissions associated with the use of a vessel with an engine(s) that meet the most stringent emission standards would be greater than the total emissions associated with the use of the vessel with an engine(s) that meet the next most stringent emission standards.

For purposes of this subparagraph, when determining the total emissions associated with the use of a vessel with a particular engine, the Permittee shall include the emissions of the vessel that would occur when the vessel would be in transit to the OCS source from the vessel's starting location.

(b) Each main and auxiliary marine engine on Crew Transfer Vessels shall be certified to EPA Tier 4 emission standards for engines greater than 600 kW and EPA Tier 3 emission standards for engines 600 kilowatts or less.

(c) Other than Crew Transfer Vessels, each Category 1 main and auxiliary marine engine of a vessel shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.101, meeting Tier 2 requirements at the minimum.

(d) Other than Crew Transfer Vessels, each Category 2 main and auxiliary marine engine shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.101, meeting Tier 2 requirements at the minimum.

(e) Other than Crew Transfer Vessels, each Category 3 main and auxiliary marine engine shall be certified to the applicable engine EPA Tier emission standard specified in 40 CFR §1042.104, meeting Tier 2 requirements at the minimum.

(f) Other than Crew Transfer Vessels, for marine engines (main and auxiliary) onboard foreign-flagged marine vessels, each engine shall be certified to the applicable engine emission standard specified in 40 CFR §1043, meeting MARPOL Annex VI requirements at the minimum.

(g) For Non-Marine Engines, Portable Diesel Generator Engines used during C&C and O&M, the Permittee shall ensure that each of the portable diesel generator engines is certified to meet the EPA Tier 4 emission standard from 40 CFR §1039, that applies to each engine.

(h) For Permanent Diesel Generator Engines on OSS during O&M, the Permittee shall ensure that each of the portable diesel generator engines is certified to meet the EPA Tier 4 emission standard from 40 CFR §1039, that applies to each engine.

[Ref: 40 CFR §60.4201 and §60.4204]

(5) The Permittee must operate and maintain the Maryland Offshore Wind Project to achieve the emission standards as required in 40 CFR §60.4204. [Ref: 40 CFR §60.4206]

(6) The Permittee shall comply with the following fuel requirements for the Maryland Offshore Wind Project:

(a) The Permittee shall use ultra-low-sulfur diesel (ULSD) fuel in all Category 1 and 2 engines, Non-Marine Engines, Portable Diesel Generator Engines used during C&C and O&M, and Permanent Diesel Generator Engines on OSS during O&M that meets the per-gallon standards below.

(i) a maximum sulfur content of 15 parts per million (ppm); and
(ii) a minimum cetane index of 40; or
(iii) maximum aromatic content of 35 volume percent.

(b) The Permittee shall use fuel with a maximum sulfur content of 1000 ppm in all Category 3 engines.

Compliance with these fuel requirements demonstrates compliance with the NSPS fuel requirements of 40 CFR §60.4207(b) and (d).

(7) For the Maryland Offshore Wind Project, the Permittee shall:

(a) Operate and maintain all engines according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer.

(b) Change only those settings that are permitted by the engine manufacturer.

(c) Meet the requirements of 40 CFR Parts 89, 94 and/or 1042, 1043, as they apply to all engines.

[Ref: 40 CFR §60.4211(a)]

(8) The Permittee shall operate only marine and non-marine engines certified to the emission standards specified in Part F(4) of this permit. Each engine must be installed and configured according to the manufacturer's emission-related specifications. [Ref: 40 CFR §60.4211(c)]

(9) For the Maryland Offshore Wind Project, the Permittee shall develop and implement a plan that will ensure good combustion practices and combustion efficiency, per manufacturer recommendations. The Good Combustion Practices and Combustion Efficiency Plan shall include practices to minimize engine idling, a summary of the good combustion practices for each engine, a preventative maintenance schedule, and any additional information as deemed necessary by the Department.

(10) The Good Combustion Practices and Combustion Efficiency Plan shall be submitted to the Department for review and approval. C&C shall not commence until the Permittee receives approval of the Good Combustion Practices and Combustion Efficiency Plan from the Department in writing.

Part G – Compliance Demonstration

(1) The Permittee shall calculate actual total NOx, CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO2e) emissions from the Maryland Offshore Wind Project for each calendar month and for each consecutive rolling 12-month period. For marine engines, the Permittee shall use the most recent version of the EPA Ports Emissions Inventory Guidance. For non-marine engines the Permittee shall use the most relevant data available, which may include actual test data, tier standards, EPA's annual engine certification data, and any emissions information obtained from equipment vendors. The Permittee must obtain approval from the Department to use an alternate emissions estimation method.

(2) The Permittee shall use actual vessel and engine data to calculate emissions as required by Part G(1). The Permittee shall include all data to support the calculations.

(3) The Permittee shall demonstrate compliance with applicable emissions limits for the Maryland Offshore Wind Project by ensuring that each engine has an EPA Certificate of Conformity to the applicable Tier emission standard, or a MARPOL Annex VI, IAPP Certificate for the vessel and an EIAPP certificate for the engine, as required in Part F(4) of this permit.

Part H – Notifications, Record Keeping, and Reporting

(1) The Permittee shall notify the Department and EPA within 5 days after the C&C Start Date.

(2) The Permittee shall notify the Department and EPA within 5 days after the O&M Start Date.

(3) The Permittee shall submit all required notifications as specified in 40 CFR §60.4214(a)(1), as applicable.

(4) The Permittee shall keep the following records for the Maryland Offshore Wind Project:

(a) All notifications submitted to comply with 40 CFR 60, Subpart IIII and all documentation supporting any notification.

(b) Maintenance conducted on each engine.

(c) Documentation from the manufacturer that each engine is certified to meet the emission standards.

[Ref: 40 CFR §60.4214(a)(2)]

(5) If an engine is equipped with a diesel particulate filter, the Permittee must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached. [Ref: 40 CFR §60.4214(c)]

(6) If required, the Permittee shall submit notifications and reports to EPA electronically using the procedures specified in 40 CFR §60.4214(g), (h), (i), and (j).

(7) The following records with supporting documentation shall be maintained on site for at least five (5) years and made available to the Department upon request:

(a) For each vessel associated with the Maryland Offshore Wind Project: the vessel's owner, vessel name, year that the vessel was built, nation of origin of the vessel, exact vessel function, whether the vessel is an OCS Source, and documentation specifically supporting whether (1) the vessel requires attachment to the seabed (either via anchors, spuds (type of jack-up vessel), or other type of attachment) during the C&C or O&M activities; (2) the vessel could be maintained in a fixed position using only the vessel engines and without any attachment to the seabed during the C&C and O&M activities; or (3) the vessel would require attachment to other vessels, while those other vessels are OCS sources, or to the WTGs or OSSs structures during the C&C or O&M activities;

(b) For each marine engine of each vessel associated with the Maryland Offshore Wind Project, regardless of whether the vessel is considered an OCS source or not: the engine's category (1 through 3), marine engine function (i.e., main (or propulsion) or auxiliary marine engine), engine type (e.g., slow-speed diesel, gas turbine…), rated engine size and total installed propulsion power (maximum continuous rated engine power in kW), vessel speed and maximum vessel speed, maximum draft, make and model year or remanufacture year, keel-laid year, engine stroke type (e.g. 2- or 4-stroke), displacement in liters/cylinder, install date, maximum in-use engine speed in rotations per minute, type of fuel used (e.g. marine gas oil, marine diesel oil…), brake specific fuel consumption, average loads, and the EPA Certificate of Conformity to a Tier engine rating, or EIAPP certificate and IAPP certificate, as applicable;

(c) For each vessel deployed during C&C and/or O&M, the Permittee shall maintain a record of the alternate vessels that, during the time of contract deployment, were available for hire for the required work needed at the time needed, as well as the Tier levels for each vessel's engines. The alternate vessels available for hire shall be listed in ranking order from the one with the highest-tiered engines to the one with the lowest tiered-engines. The record should indicate if the vessel with the highest tiered-engines from the list was the actual vessel hired and deployed. If the vessel with the highest tiered-engines from the list was not the actual vessel hired and deployed, the record should document the reason(s) for the Permittee selection of a vessel with lower-tiered engines.

(d) For each non-marine engine of each vessel that will be associated with the Maryland Offshore Wind Project: maximum engine power (kW), model year, type of fuel used, and the EPA certificate of conformity to the Tier 4 emission standards in 40 CFR §1039.101(b);

(e) The daily operating hours for each engine associated with the Maryland Offshore Wind Project. The hours of operation shall be recorded from a non-resettable hour meter or, if a non-resettable hour meter is not available, by monitoring and maintaining records of the actual daily operating hours;

(f) The daily fuel use, in units of gallons per day, for each engine associated with the Maryland Offshore Wind Project and records of fuel supplier certifications for all fuelings to demonstrate compliance with all applicable fuel sulfur content limitations;

(g) Daily records of marine engine load factors calculated per vessel associated with the Maryland Offshore Wind Project; load factor shall be calculated per the most recent version of the EPA Ports Emissions Inventory Guidance, unless the Permittee obtains approval from the Department to use an alternate emissions estimation method.

(h) The monthly and consecutive rolling 12-month actual NOx, NO_2 (if different from NOx), CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e), in units of tons, including calculations and data to support the calculations.

(i) The Good Combustion Practices and Combustion Efficiency Plan that will ensure good combustion practices and combustion efficiency, per manufacturer recommendations and all associated records.

(8) The Permittee shall contact the Department and EPA, via an electronic communication, within 15 calendar days of any emissions exceedance from the limits established in this permit-to-construct, in the PSD Approval (PSD-2024-001) and the NSR Approval (NSR-2024-001).

(9) The Permittee shall submit to the Department, not later than 30 days following each calendar quarter, a quarterly summary report. The report shall be in a format approved by the Department and shall include the following:

(a) An update to the information required in Part E(1) including each vessel contracted, each anticipated representative vessel, and each marine and non-marine engine to be used during C&C and O&M phases of the Maryland Offshore Wind Project;

(b) The monthly and consecutive rolling 12-month actual NOx, NO_2 (if different from NOx), CO, PM-10, PM-2.5, VOC, SO_2, lead (Pb) and GHG (as CO_2e), in units of tons;

(c) The daily NO_2, CO, PM-10, and PM-2.5 in units of tons;

(d) The daily, monthly, and consecutive rolling 12-month hours of operation;

(e) A description of any deviation from this permit, including the date that the deviation occurred, the date corrective actions were implemented, and a description of the corrective actions that were implemented;

(f) The cause and time periods and magnitude of all emissions which exceed the applicable emissions standards;

(g) Quarterly totals of excess emissions during the calendar quarter; and

(h) Any other information deemed necessary by the Department to evaluate data, to ensure that compliance is achieved, or to determine the applicability of this requirement.

All information stated above shall be retained for a minimum of 5 years from the time the report is submitted. The reporting frequency may be reduced in subsequent years upon approval by the Department as specified in the Maryland Offshore Wind Project operating permit.

(10) The Permittee of an Outer Continental Shelf (OCS) source to whom the permit to construct is issued shall notify all other owners and operators, contractors, and the subsequent owners and operators associated with emissions from the source of the conditions of the permit.

(11) All air quality notifications, records, reports, plans, and documents required by this permit shall be submitted electronically to the Air Quality Compliance Program to:

mdeair.othercompliance@maryland.gov