REGION 1
BOSTON, MA 02109

December 2, 2024

STATEMENT OF BASIS

Outer Continental Shelf Title V Draft Operating Permit
New England Wind 2 Project
Commonwealth Wind, LLC

Offshore Renewable Wind Energy Development
EPA Draft Permit Number: OCS-R1-08-TV

Acronyms and Abbreviation List

APPS	Air to Prevent Pollution from Ships
AQRV	Air Quality Related Values
BACT	Best Available Control Technology
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act
CA SIP	California State Implementation Plan
CERC	Continuous Emission Reduction Credit
C.F.R.	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
COA	Corresponding Onshore Area
CO_2	Carbon Dioxide
CO_2e	Carbon dioxide equivalent
CTV	Crew Transfer Vessel
CZMA	Coastal Zone Management Act
CWW	Commonwealth Wind, LLC
DEIS	Draft Environmental Impact Statement
DPS	Dynamic Positioning System
EAB	Environmental Appeals Board
ECA	Emission Control Area
EGRID	Environmental Protection Agency's Emissions and Generation Resource Integrated Database
EIAPP	Engine International Air Pollution Prevention
EPA	United States Environmental Protection Agency
EJ	Environmental Justice
ERC	Emission Reduction Credit
ESA	Endangered Species Act
ESP	Electrical Service Platform
EUG	Emission Unit Group
FWS	U.S. Fish and Wildlife Service
GCOP	Good Combustion and Operation Practices
GHG	Greenhouse Gas
g/kW-hr	Grams per kilowatt-hour
H_2SO_4	Sulfuric acid
HAP	Hazardous Air Pollutant
HC	Hydrocarbon
HV GIS	High Voltage Gas Insulated Switchgear
IAPP	International Air Pollution Prevention
ISO NE	ISO New England
KV	Kilovolt
KW	Kilowatt
LAER	Lowest Achievable Emission Rate
LV GIS	Low Voltage Gas Insulated Switchgear
MassDEP	Massachusetts Department of Environmental Protection
MV GIS	Medium Voltage Gas Insulated Switchgear
MW	Megawatt
NEW1	New England Wind 1
NEW2	New England Wind 2
NHPA	National Historical Preservation Act
NM	Nautical Mile
NMFS	National Marine Fisheries Service
NMHC	Non-methane hydrocarbons
NNSR	Nonattainment New Source Review
NSR	New Source Review
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
OCS	Outer Continental Shelf
OCS-DC	Offshore Converter Station
OnCS-DC	Onshore Converter Station
OSCLA	Outer Continental Shelf Lands Act
Pb	Lead
PCW	Park City Wind, LLC
PM	Particulate Matter
PM_{10}	Particulate Matter with an Aerodynamic Diameter <= 10 Microns
$PM_{2.5}$	Particulate Matter with an Aerodynamic Diameter <= 2.5 Microns
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RPM	Revolutions Per Minute
SER	Significant Emission Rate
SIL	Significant Impact Levels
SO_2	Sulfur Dioxide
SOV	Service Operation Vessels
TPY	Tons Per Year
TV	title V
U.S.C.	United States Code
VW1	Vineyard Wind 1, LLC
VOC	Volatile Organic Compound
WDA	Wind Development Area
WTG	Wind Turbine Generator

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I. General Information

Company Name and Address:	Commonwealth Wind, LLC 125 High Street, 6th Floor Boston, MA 02110
Facility Name:	New England Wind 2 (NEW2)
Location of Regulated Activities:	Outer Continental Shelf (OCS) Lease Area OCS-A-0561. See Section II.A for more information.
Draft OCS Permit Number:	OCS-R1-08-TV
EPA Contact:	Pujarini Maiti

On April 4, 2024, Commonwealth Wind, LLC (CWW or the applicant) submitted to EPA Region 1 (EPA) an initial title V application requesting a Clean Air Act (CAA or the Act) operating permit under Sections 328 and title V of the CAA for the operation of their New England Wind 2 Offshore Windfarm ("NEW2" or "the Project"). EPA determined the application to be administratively complete on May 3, 2024.

This facility was issued an OCS preconstruction Permit No. OCS-R1-08 on April 15, 2024. NEW2 is considered part of the same stationary source as the Vineyard Wind 1 (VW1) and New England Wind 1 (NEW1) projects. VW1 operates under a separate title V Operating Permit No. OCS-R1-03 (M-1) issued on August 19, 2022. NEW1 will operate under a separate title V Operating Permit from this permit.

After reviewing the application and additional information, the EPA prepared the Statement of Basis and title V OCS air permit in accordance with the requirements of 40 C.F.R. parts 55, part 124, part 71, and 310 CMR 7.00: Appendix C[1]. The EPA's permit is based on the information and analysis provided by the applicant and the EPA's own technical expertise. The Statement of Basis documents the information and analysis the EPA used to support the OCS permit decisions.

The EPA has made the permit application materials and any supplemental information provided by the applicant available to the public as part of the administrative record for this permitting action. The permit application and supplemental information for the draft permit are available on EPA Region 1's web site: https://www.epa.gov/caa-permitting/caa-permitting-epas-new-england-region.

[1] In accordance with the COA Per 310 CMR 7.00 Appendix C (4)(a)(5.), "For new construction subject to the requirements of 310 CMR 7.00: Appendix C, an application for an operating permit shall be submitted no later than one year after commencement of operation."

II. Facility Description

The facility will include up to eighty-eight (88) wind turbine generators (WTGs) positions that will generate electricity from offshore wind, of which up to 3 positions may be occupied by ESPs. The facility will also include up to three (3) electrical service platforms (ESPs) that serve as common interconnection points for the WTGs[2]. The ESP(s) will include step-up transformers and other electrical gear to increase the voltage of power generated by the WTGs. The WTGs and ESP(s) will be oriented in an east-west, north-south grid pattern with one (1) nautical mile (NM) spacing between positions and will be supported by monopile or piled jacket foundations. Strings of WTGs will connect to each ESP via a submarine inter-array cable transmission system. If two or three ESPs are used, they may connect with an inter-link cable. The offshore export cables will transmit electricity from the ESP(s) to a landfall site in the Town of Barnstable, Massachusetts. All offshore cables will be buried beneath the seafloor. Grid interconnection cables will then connect the Project's onshore substation to the ISO New England electric grid at an existing 345 kilovolt (kV) substation owned by Eversource Energy in West Barnstable, Massachusetts. Once fully operational, the project will have an anticipated nameplate capacity of approximately 1,232 megawatts (MW) of renewable energy. The operation and maintenance (O&M) phase of the windfarm will begin when the first WTG is completed and begins to produce commercial power. Note that individual WTGs could be producing commercial power before the construction of the entire OCS Facility is completed.

The facility is a major Prevention of Significant Deterioration (PSD) stationary source for New Source Review (NSR) pollutants for which the corresponding onshore area (COA) is designated attainment The facility is also a major stationary source for Nonattainment New Source Review (NNSR) pollutants (and their precursors in the case of ozone) in the Ozone Transport Region (OTR). The facility is an area source of hazardous air pollutant (HAP) emissions 40 CFR § 63.

Since the facility is above major threshold for criteria pollutants, it is subject to the Operating Permit Program requirements in 310 CMR 7.00: Appendix C (also referred to as the title V permit).

A. Facility Location

The facility is located within federal waters on the OCS located within the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A-0561. The wind development area (WDA) for NEW2 is approximately 74,873 acres. At its closest point, the NEW2 WDA is approximately 30 km (16 NM[3]) from the nearest Massachusetts shoreline.[4] See Figure 1.

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[2] As described further in the New England Wind COP, the Proponent has identified two variations of the Offshore Export Cable Corridor (OECC) for Phase 2 of New England Wind—the Western Muskeget Variant and the South Coast Variant—in the event that technical, logistical, grid interconnection, or other unforeseen issues arise during the engineering and permitting processes that preclude one or more of the Project's offshore export cables from being installed within all or a portion of the OECC.

[3] All miles referenced in this Statement of Basis are nautical miles (NM). One NM is equal to 1.15077 statute miles. EPA performs jurisdictional and OCS air emissions determinations based on NM.

[4] Note that the closest point in Massachusetts to the NEW2 WDA is on Nomans Land, which is an uninhabited island that is closed to the public. The distance is measured from the boundary of the NEW2 WDA (not the nearest WTG position).

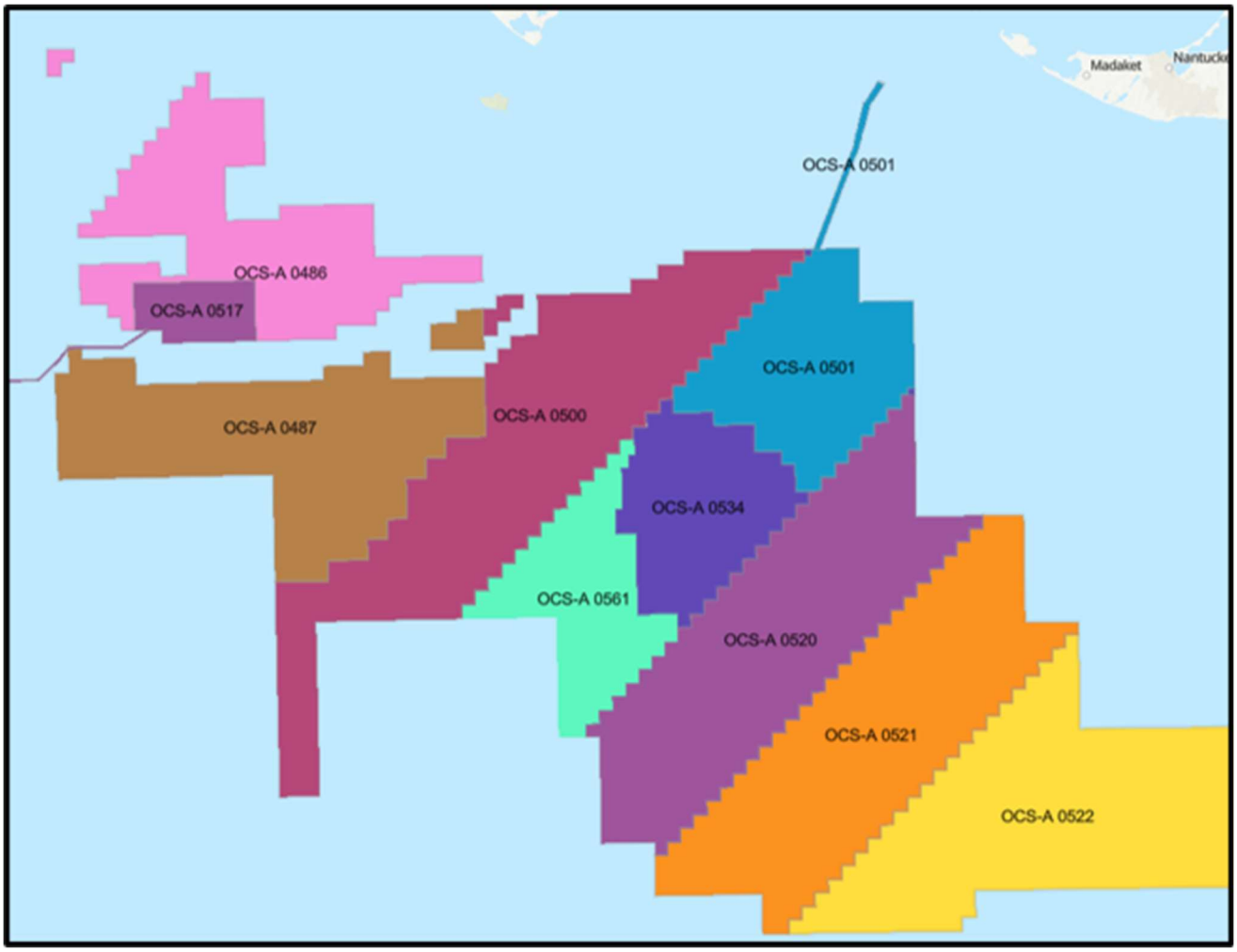

Figure 1 Location of New England 2 ("NEW2") Offshore Windfarm Project

B. Permitting and Compliance History

The list below provides a summary of the chronology of NEW2's permitting and inspection history:

Table 1 NEW2 Permit History

Permit No.	Date Issued	Description
OCS-R1-08	April 15, 2024	Preconstruction permit issued for the construction of Park City Wind, LLC's (NEW2's) offshore windfarm on the OCS
OCS-R1-08-AA	August 5, 2024	Administrative Amendment to OCS Air Permit to reflect the transfer of ownership and lease area reassignment of the NEW2 facility to Commonwealth Wind, LLC

III. Applicability of 40 C.F.R. Part 55 – OCS Air Regulations

A. OCS Statutory and Regulatory Authority

Section 328(a) of the CAA requires that the EPA establish air pollution control requirements for equipment, activities, or facilities located on the OCS that meet the definition of an OCS source.

Sources located within 25 NM of a state's[5] seaward boundary also need to comply with several onshore requirements. To comply with this statutory mandate, on September 4, 1992, the EPA promulgated 40 C.F.R. part 55, which established the requirements to control air pollution from OCS sources to attain and maintain federal and state ambient air quality standards.[6]

The Energy Policy Act of 2005 (*See* Title III (Oil and Gas), Subtitle G – Miscellaneous, Section 388) amended section 8 of the Outer Continental Shelf Lands Act (OCSLA) to allow the EPA and the Department of the Interior to authorize activities on the OCS that "produce or support production, transportation, or transmission of energy from sources other than oil and gas." Section 4(a)(1) of OCSLA was recently amended to expand the scope of "exploring, developing or producing resources" in the OCS to include "non-mineral energy resources" such as offshore wind. *See* William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, H.R. 6395, 116th Cong. § 9503 (2021). BOEM reviews construction and operation plans from offshore wind energy developers and approves, approves with modifications, or disapproves those plans. EPA issues a CAA OCS permit to establish air pollution control requirements for such sources when the definition of "OCS source" is met, as defined in CAA § 328 and 40 C.F.R. part 55.[7]

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

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

(2) Is regulated or authorized under the OCSLA (43 U.S.C. § 1331 *et seq.*); and

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

Furthermore, 40 C.F.R. § 55.2 establishes that for a vessel to be considered an OCS source, the vessel must also be:

(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 [sic] aspects of the vessels will be regulated.

Finally, under 40 C.F.R. § 55.2, the term "Outer Continental Shelf" has the meaning provided by section 2 of the OCSLA (43 U.S.C. § 1331 *et seq.*), which defines the "Outer Continental Shelf" as "all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in section 1301 of this title, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."

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[5] The term "state," when used to reference one of the 50 states within the United States, includes states that are officially named commonwealths, e.g., the Commonwealth of Massachusetts.

[6] Refer to the Notice of Proposed Rulemaking, December 5, 1991 (56 Fed. Reg. 63,774), and the preamble to the final rule promulgated September 4, 1992 (57 Fed. Reg. 40,792) for further background and information on the OCS regulations.

[7] A copy of the Construction and Operation Plan may be found at https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south

Once an activity, facility, or equipment (which may include a vessel) is considered an OCS source, then the emission sources of that OCS source become subject to the requirements of 40 C.F.R. part 55, which include, but are not limited to: (1) obtaining an OCS air permit, as required by 40 C.F.R. § 55.6; (2) complying with the applicable federal regulations and requirements specified at 40 C.F.R. § 55.13; (3) for an OCS source within 25 NM of a state's seaward boundary, complying with the state or local air emissions requirements of the COA specified at 40 C.F.R. § 55.14; (4) monitoring, reporting, inspection, and enforcement requirements specified at 40 C.F.R. §§ 55.8 and 55.9; and (5) permit fees as specified under 40 C.F.R. § 55.10.

B. Procedural Requirements for OCS Permitting

Regulations developed pursuant to OCS statutory requirements under section 328 of the CAA are codified at 40 C.F.R. part 55. The OCS regulations create procedures that require an applicant seeking to construct and operate an OCS source to identify the federal regulations and the state and local regulations from the COA that may apply to the source, and to seek to have those regulations apply, as a matter of federal law, to the OCS source. Once the EPA has received a complete permit application, the EPA[8] then follows the applicable procedures of 40 C.F.R. part 124 or 40 C.F.R. part 71, to process the application.[9]

The OCS regulations first require the applicant to submit a Notice of Intent (NOI) to the nearest EPA regional office. *See* 40 C.F.R. § 55.4. The NOI provides emissions information regarding the OCS source, including information necessary to determine the applicability of onshore requirements and the source's impact in onshore areas. *See* 40 C.F.R. § 55.5. NEW2 submitted to the EPA an NOI for the windfarm on January 28, 2022. Information provided in the NOI for this windfarm indicated that Massachusetts is the nearest onshore area ("NOA"). The EPA did not receive a request from another state to be designated the COA for this project, thus Massachusetts is designated as the COA for this project. *See* 40 C.F.R. § 55.5(b)(1).

The federal requirements that apply to an OCS source are provided in 40 C.F.R. § 55.13. The EPA also reviews the state and local air requirements of the COA to determine which requirements should be applicable on the OCS and revises 40 C.F.R. part 55 to incorporate by reference those state and local air control requirements that are applicable to an OCS source. *See id.* § 55.12. Once the EPA completes its rulemaking to revise 40 C.F.R. part 55, the state and local air regulations incorporated into 40 C.F.R. part 55 become federal law and apply to any OCS source associated with that COA.

Under this "consistency update" process, the EPA must incorporate applicable state and local rules into 40 C.F.R. part 55 as they exist onshore. This limits the EPA's flexibility in deciding which requirements will be incorporated into 40 C.F.R. part 55 and prevents the EPA from making substantive changes to the requirements it incorporates. As a result, the EPA may be incorporating rules into part 55 that do not conform to certain requirements of the CAA or are not consistent with the EPA's state

[8] The authority to "take all actions required to implement the Outer Continental Shelf (OCS) rules promulgated at 40 CFR Part 55" has been delegated to the Air Division Director in EPA Region 1. See Docket for Delegation of Authority.
[9] *See* 40 C.F.R. § 55.6(a)(3).

implementation plan (SIP) guidance[10]. The EPA includes all state or local air requirements of the COA except any that are not rationally related to the attainment or maintenance of federal or state ambient air quality standards or part C of Title I of the Act, that are designed expressly to prevent exploration and development of the OCS, that are not applicable to an OCS source, that are arbitrary or capricious, that are administrative or procedural rules, or that regulate toxics which are not rationally related to the attainment and maintenance of federal and state ambient air quality standards.[11]

On November 23, 2021, the EPA published a Notice of Proposed Rulemaking (NPRM) proposing to incorporate various Massachusetts air pollution control requirements into 40 C.F.R. part 55[12] in response to a NOI submittal for another wind energy project, Sunrise Wind, LLC. (NOI submitted on September 9, 2021).

EPA also received an NOI on November 5, 2021, from Revolution Wind, LLC, an NOI on January 28, 2022, from Park City Wind, LLC (for the NEW 1 and NEW 2 projects) and an NOI on May 31, 2022, from Mayflower Wind Energy, LLC.[13] Massachusetts was also designated as the COA for all three projects. Upon the designations, EPA conducted a consistency review in accordance with regulations at 40 C.F.R. § 55.12 and determined any recent changes to the Massachusetts regulations since the NPRM were non-substantive as they relate to OCS sources, and that it was not necessary to propose an additional consistency update at that time.[14]

EPA published a final rulemaking notice for the consistency update to part 55 on November 15, 2022. *See* 87 Fed. Reg. 68,364 (Nov. 15, 2022). EPA's November 15, 2022, Federal Register notice satisfies EPA's obligation under § 55.12 to conduct a consistency review for the subsequent NOIs received from Sunrise Wind, LLC, Revolution Wind, LLC, Park City Wind, LLC ((for the NEW 1 and NEW 2 projects)), and Southcoast Wind, LLC (formerly Mayflower Wind Energy). The Massachusetts regulations that the EPA incorporated into part 55 in that action are the applicable provisions of (1) 310 CMR 4.00: Timely Action Schedule and Fee Provisions; (2) 310 CMR 6.00: Ambient Air Quality Standards for the Commonwealth of Massachusetts; and (3) 310 CMR 7.00: Air Pollution Control, as amended through March 5, 2021. EPA's final rule did not affect the provisions of 310 CMR 8.00 that were previously incorporated by reference into part 55 through EPA's prior consistency update on November 13, 2018. *See* 83 Fed. Reg. 56,259 (Nov. 13, 2018).

[10] Inclusion of a state rule in 40 C.F.R. part 55 does not imply that a state rule meets the requirements of the CAA for SIP approval, nor does it imply that the rule will be approved by the EPA for inclusion in the SIP.
[11] *See* 40 C.F.R. §§ 55.12(d), 55.14(c).
[12] 86 Fed. Reg. 66,509–66,512.
[13] On February 1, 2023, Mayflower Wind Energy LLC notified EPA of a name change to South Coast Wind Energy, LLC.
[14] Since EPA's November 23, 2021, NPRM, Massachusetts revised the regulations at 310 CMR 7.00 (Statutory Authority; Legend; Preamble; Definitions) and 310 CMR 7.40 (Low Emission Vehicle Program), effective December 30, 2021. EPA previously determined that the regulations at 310 CMR 7.40 (Low Emission Vehicle Program) were not applicable to OCS sources and did not propose to incorporate this section of 310 CMR 7.00 into part 55 as part of the November 23, 2021, NPRM. Although EPA's NPRM proposed to incorporate by reference the definitions located at 310 CMR 7.00 (Statutory Authority; Legend; Preamble; Definitions), MassDEP's most recent revisions to 310 CMR 7.00 (Statutory Authority; Legend; Preamble; Definitions) were related to the amendments to the regulations at 310 CMR 7.40 (Low Emission Vehicle Program). EPA has reviewed the recent amendments to the Massachusetts regulations at 310 CMR 7.00 (Statutory Authority; Legend; Preamble; Definitions) and determined that these changes are non-substantive as they relate to OCS sources.

EPA has received subsequent NOIs for projects and conducted periodic reviews of Massachusetts regulations to ensure all applicable requirements for OCS sources as they relate to attainment and maintenance of federal or state ambient air quality standards and the requirements of part C of title I of the CAA are incorporated by reference into the Massachusetts section of Appendix A in 40 CFR part 55. These evaluations have not led to additional requirements incorporated by reference into Appendix A, because either a Massachusetts regulation did not change or because any changes to a previously incorporated regulation were not applicable to the attainment and maintenance of federal or state ambient air quality standards for OCS sources.

However, through EPA's implementation of the OCS air permitting program, EPA became aware that 310 CMR 4.03: Annual Compliance Assurance Fee and 310 CMR 7.12: U Source Registration are unnecessarily incorporated into Appendix A of 40 CFR part 55. These two regulations are either 1) implemented by existing EPA programs and thus duplicative or 2) not rationally related to the attainment or maintenance of federal or state ambient air quality standards or to the requirements of part C of title I of the CAA.

On September 11, 2024, the EPA published an NPRM proposing to remove these previously approved regulations (See 89 FR 73617) incorporated into Appendix A of 40 CFR part 55 since our last amendment on November 15, 2022. Based on a review of part 55, 1) 310 CMR 4.03: Annual Compliance Assurance Fee is duplicative of existing federal rules and 2) 310 CMR 7.12: U Source Registration is no longer determined to be rationally related to the attainment and maintenance of Federal or State ambient air quality standards or to the requirements of part C of title I of the Act. Further, these changes are proposed to ensure consistency of the OCS permitting program in accordance with part 55 requirements.

An applicant's next step is to submit an air permit application that provides the information to show that it will comply with all applicable federal requirements in 40 C.F.R. part 55, including those state and local requirements incorporated by reference into 40 C.F.R. part 55 as explained previously, and any other federal requirements that may apply to the source. This includes requirements related to CAA title V operating permits. The EPA reviews the application and proposes either to approve or deny the application. If the EPA decides to propose approval of the application, the EPA prepares a draft air permit and a Statement of Basis that documents its proposed permit decision. The EPA then provides a notice and comment period of at least 30 days on the draft permit and may also hold a public hearing if there is a significant degree of public interest and/or if a hearing might clarify issues involved in the permit decision. Following the comment period, the EPA responds to all significant comments raised during the public comment period, or during any hearing, and issues the final air permit decision.

C. Scope of the "OCS Source" Under 40 C.F.R. part 55

The CAA permitting analysis for an offshore windfarm located in federal waters must begin with a determination of the scope of the "OCS source" because the boundaries of the source determine what activities are attributed to the source for purposes of quantifying its "potential emissions" and determining what CAA programs apply.[15] These "potential emissions" must also include the emissions

[15] The OCS regulations themselves do not constitute a permitting program but, instead, make existing federal and state air pollution control requirements applicable to OCS sources. 40 C.F.R. § 55.1.

from vessels "servicing or associated with an OCS source" as that is required under CAA section 328 and EPA's implementing regulations at 40 C.F.R. part 55. Once the scope of the OCS source is identified, EPA must then determine if and how CAA programs such as the NSR preconstruction permitting[16] and title V operating permit programs may apply to the source. NSR and title V permitting will generally apply if the OCS source's emissions exceed the applicability thresholds included in those programs.

For purposes of CAA permitting, EPA is treating all stationary equipment and activities within the proposed windfarm, including all wind turbines, as part of a single "OCS source" because all such equipment and activities are integral components of a single industrial operation that emits or have the potential to emit any air pollutant, are regulated or authorized under the OCSLA, and are located on the OCS or in or on waters above the OCS. The OCS source comprises all offshore WTGs and their foundations, each ESP and its foundation, the inter-array cables, and vessels when they meet the definition of an OCS source in 40 C.F.R. § 55.2. Thus, emissions from any vessel "servicing or associated with" any component of the OCS source (including any WTG or ESP) while at the source and while en route to or from the source within 25 NM of the source's centroid must be included in the OCS source's potential to emit, consistent with the definition of "potential emissions" in 40 C.F.R. § 55.2.

EPA uses the term "OCS Facility," which means the entire WDA once the first OCS source is established in the WDA. The first OCS source is established once any equipment or activity that meets the definition of an OCS source is located within the WDA. The term "OCS Facility" is used to differentiate from the term "OCS source" when that term is used in the permit to refer to individual pieces of equipment or vessels that meet the definition of "OCS source" which are subject to control technology requirements.[17]

D. Scope of the Stationary Source Under NSR and Title V

The EPA must apply the NSR program regulations to determine the emission units that are considered part of the major stationary source for purposes of applying these requirements. This approach of using the definition within the specific CAA program is articulated well in an EAB Decision *In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit*, 13 E.A.D. 357, 380 (EAB 2007).

The EAB stated in that decision:

> We find that the Region correctly concluded that, once it determines an emissions source located on the OCS is properly classified as an "OCS source," then that emissions source becomes subject to the requirements of 40 C.F.R. part 55. Further, the permitting programs and other requirements to which the OCS source is subject through part 55, including the PSD permitting program, then apply to the OCS source based on the regulations that define the scope of those programs. Specifically, simply because EPA has

[16] Applicability of Prevention of Significant Deterioration (PSD) and Nonattainment NSR (NNSR) permit programs is discussed in Section V and VI of the Fact Sheet for OCS-R1-08.

[17] Note that the CAA defines the term "OCS source" to include "any equipment, activity, or facility" that (1) emits or has the potential to emit any air pollutant, (2) is regulated or authorized under the Outer Continental Shelf Lands Act (OCSLA), and (3) is located on the OCS or in or on waters above the OCS. CAA § 328(a)(4)(C).

> identified an OCS source as regulated under the CAA, and subject to the requirements of part 55, does not mean it can avoid the next necessary step of determining the scope of the "stationary source" for PSD purposes.

In accordance with these requirements of the applicable regulations, the EPA must determine whether NSR regulations apply to the windfarm based on the regulations that define the scope of the source under this CAA permitting program.

For the NSR preconstruction permitting programs, which include PSD and NNSR, the EPA regulations define "stationary source" as "any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant."[18] Those regulations, in turn, define the term "building, structure, facility, or installation" to mean "all of the pollutant-emitting activities which [1] belong to the same industrial grouping, [2] are located on one or more contiguous or adjacent properties, and [3] are under the control of the same person (or persons under common control)," with "same industrial grouping" referring to the same Major Group, two-digit SIC code. For the title V operating permit program, "major source" is similarly defined in relevant part as a stationary source or group of stationary sources that meet these same three criteria.[19] State and local permitting authorities have EPA-approved NSR permitting regulations that contain identical or similar definitions for the terms "stationary source" and "major source."

Under the EPA-approved Massachusetts title V regulations at 310 CMR 7.00, Appendix C (incorporated by reference into the federal rules at 40 C.F.R. § 55.14), "stationary source" is defined as follows:

Stationary source means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under 42 U.S.C. 7401, § 112(b). "Building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person.

The Massachusetts NNSR regulations at 310 CMR 7.00, Appendix A define "building, structure, facility, or installation" as follows:

> [A]ll of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Any marine vessel is a part of a facility while docked at the facility. Any marine vessel is a part of an Outer Continental Shelf (OCS) source while docked at and within 25 nautical miles en route to and from the OCS source. Pollutant-emitting activities shall be considered as part of the same industrial

[18] 40 C.F.R. §§ 52.21(b)(5), 51.165(a)(1)(i), 51.166(b)(5); *see* 42 U.S.C. § 7602(z) (defining "stationary source" as "any source of an air pollutant" except those emissions resulting directly from certain mobile sources or engines).

[19] 40 C.F.R. §§ 70.2, 71.2; *see* 42 U.S.C. § 7661(2) (defining major source for Title V permitting as "any stationary source (or any group of stationary sources located within a contiguous area and under common control)" that is either a major source as defined in CAA section 112 or a major stationary source as defined in CAA section 302 or part D of subchapter I (NNSR)). The EPA was also clear in promulgating its regulatory definitions of "major source" that the language and application of the Title V definitions were intended to be consistent with the language and application of the PSD definitions contained in 40 C.F.R. § 52.21. 61 Fed. Reg. 34,210 (July 1, 1996).

grouping if they belong to the same Major Group (*i.e.*, which have the same two-digit code) as described in the *Standard Industrial Classification Manual*, 1987.

Additionally, in 2019, EPA issued guidance[20] to provide its interpretation of the term "adjacent" as that term is used in NSR and title V source determinations. In that guidance, EPA provided an interpretation of "adjacent" based solely on physical proximity for the purpose of determining whether separate activities are located on adjacent properties. The guidance indicated that EPA would no longer consider "functional interrelatedness" in determining whether activities are located on adjacent properties. EPA has applied the regulatory definitions and interpretive statements to determine the scope of the stationary source for the windfarms under the applicable NSR and title V regulations – i.e., for purposes of determining whether the pollutant-emitting activities, equipment, or facilities for these projects: [1] belong to the same industrial grouping, [2] are located on one or more contiguous or adjacent properties, and [3] are under common control.[21] The same reasoning applies to the New England Wind 2 project. As explained in more detail in those prior actions[22], the EPA considers a WDA to fit within the concept of a "property," meaning "a place or location." EPA has made this determination for two reasons. First, the WDA is a discrete and clearly identifiable area set apart from the surrounding open ocean by its man-made features. One could not approach or pass through the WDA and its towering grid of wind turbines without recognizing that it was a fundamentally different "place" than the open ocean. Second, although the WDA occupies a relatively large area, its size is necessarily unique to the expansive spatial scales associated with OCS windfarm development projects.[23] Viewed in context, the WDA is a relatively small property when compared to the area set aside for future development by the offshore wind industry off the coast of Massachusetts and is an even smaller property when compared to the OCS and surrounding open ocean more broadly.

In addition, the NEW 1 and 2 projects and the previously permitted Vineyard Wind 1 project qualify as a single stationary source under the criteria in the EPA's NSR and title V regulations described above.

Regarding the first criterion, the activities of Vineyard Wind 1, LLC (owner of the VW1 project) and Park City Wind, LLC (owner of the NEW1 project), and Commonwealth Wind, LLC (owner of the NEW2 project) are classified under Standard Industrial Code (SIC) 4911, Electric Services. Accordingly, all pollutant-emitting activities for Vineyard Wind 1, LLC, Park City Wind, LLC, and Commonwealth Wind,

[20] *See* the memo "Interpreting 'Adjacent' for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas" at https://www.epa.gov/sites/production/files/2019-12/documents/adjacent_guidance.pdf

[21] *See* Statement of Basis for Vineyard Wind 1, LCC, South Fork Wind, LLC, and Revolution Wind, LLC, which are available online at https://www.epa.gov/caa-permitting/epa-issued-caa-permits-region-1.

[22] On September 28, 2023, EPA issued Permit No. OCS-R1-05 for Revolution Wind, LLC. In this permit action, EPA concluded that Revolution Wind, LLC and South Fork Wind, LLC constitute a single stationary source because all the pollutant-emitting activities, equipment, or facilities for these projects: [1] belong to the same industrial grouping, [2] are located on one or more contiguous or adjacent properties, and [3] are under common control. In the public comment period for Revolution Wind, LLC, a commenter suggested that Revolution Wind and South Fork Wind do not meet the second of these criteria—i.e., that these projects are not located on contiguous or adjacent properties. As explained in EPA's Statement of Basis and response to comment for Revolution Wind, LLC, EPA looks exclusively to physical proximity in determining whether this criterion is satisfied.

[23] Offshore windfarms require some degree of spacing between turbines, resulting in a single facility or installation covering a relatively large property. This spacing is necessary to balance navigational concerns, wind energy generation, and impacts to other resources such as marine mammals, recreational fishing and boating, and commercial marine fisheries.

LLC projects, i.e., VW1, NEW1 and NEW2, belong to the same industrial grouping, and thus satisfy the first criterion for treatment as a single stationary source.

Regarding the second criterion, the pollutant-emitting activities of these projects are located on contiguous properties. As discussed above, the WDA for a wind farm project qualifies as a single property. The pollutant-emitting activities for the Vineyard Wind 1, LLC, Park City Wind, LLC, and Commonwealth Wind, LLC projects are located on adjoining lease areas, specifically located on OCS lease area OCS-A 0501 (VW1), lease area OCS-A 0534 (NEW1) and lease area OCS-A-0561 (NEW2). As can be seen in Figure 1 (*Location of New England 2 (NEW2) Offshore Windfarm Project*) in Section II.A of this Statement of Basis, lease area OCS-A 0534 shares a common boundary with Lease area OCS-A 0501 and OCS-A-0561. In addition to being on contiguous lease areas, the NEW1 WDA has the potential to overlap with the currently identified lease area OCS-A 0501. *See* Figure 1. The portion of the NEW1 WDA that will be developed for NEW1 will depend on: (1) whether the Applicant acquires a small portion of lease area OCS-A 0501 from Vineyard Wind 1, LLC; (2) the generating capacity of the WTGs, which will determine the number of WTGs installed; and (3) engineering and environmental constraints, which could eliminate positions and extend the footprint of the VW1 project farther southwest. *See* Figure 1 Location of New England 2 ("NEW2") Offshore Windfarm Project. NEW1 and NEW2 share a similar overlapping boundary of their respective WDAs, which will be refined based on similar criteria as found above as the projects move forward, however the potential overlap occurs solely within the BOEM Lease Area OCS-A 0534. Regardless of where this dividing line between properties is ultimately drawn, properties with a common boundary line of this nature qualify as contiguous. Therefore, the Park City Wind, LLC, Commonwealth Wind, LLC, and Vineyard Wind 1, LLC projects are located on contiguous properties and satisfy the second criterion for treatment as a single stationary source.

Regarding the third and final criterion [3], common control, EPA evaluated the relationship between Park City Wind, LLC, Vineyard Wind 1, LLC and Commonwealth Wind, LLC. EPA considers common ownership sufficient to establish common control for corporate entities under the same corporate umbrella.[24] Park City Wind, LLC and Commonwealth Wind, LLC are a wholly owned subsidiaries of Avangrid Renewables, LLC. Vineyard Wind 1, LLC, is currently a 50/50 joint venture of Avangrid Renewables, LLC, and Copenhagen Infrastructure Partners (CIP). Furthermore, EPA also considers one entity's power or authority over the other to dictate decisions that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.[25] As a result of EPA's assessment, the EPA has determined that Park City Wind, LLC, Vineyard Wind 1, LLC, and Commonwealth Wind, LLC are under common control and meet the third and final criterion for treatment as a single stationary source.

For the reasons discussed above, the Park City Wind, LLC, Vineyard Wind 1, LLC, and Commonwealth Wind LLC projects belong to the same industrial grouping, are located on contiguous properties, and

[24] *See* Letter from Carl Daly, Acting Director, EPA Region 8 Air & Radiation Div., to Danny Powers, Air Quality Program Mgr., Southern Ute Indian Tribe (July 23, 2019), *available at* https://www.epa.gov/sites/default/files/2019-10/documents/jaques2019.pdf.

[25] *See* Letter from William L. Wehrum, Assistant Adm'r, EPA Office of Air and Radiation, to the Hon. Patrick McDonnell, Sec'y, Pa. Dept. of Envtl. Prot. (April 30, 2018), *available at* https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf.

are under common control. Therefore, the EPA has determined that the Park City Wind, LLC, Vineyard Wind 1, LLC and Commonwealth Wind, LLC projects constitute a single stationary source under the NSR and title V permit programs and the potential emissions of this single stationary source is used to determine applicability of the relevant permit program requirements under 40 C.F.R. § part 55.2 defines potential emissions as follows:

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

Once the facility meets the definition of an OCS source, emissions from vessels servicing or associated with any part of the facility are included in the OCS source's potential emissions while at the source and when traveling to and from any part of the OCS source when within 25 NM of the source's centroid. Although emissions from vessels servicing or associated with the OCS source contribute to the total potential emissions within 25 NM of the source's centroid, they are not regulated as part of the OCS source in the permit unless that vessel is meeting the criteria of the definition of an OCS source and the propulsion engine would be used to supply power for purposes of performing a given stationary source function (e.g., to lift, support, and orient the components of each WTG during installation). However, these emissions from vessels within 25 NM of the source's centroid are included when making the following determinations regarding the equipment and activities that are OCS sources:

1. Applicability of CAA programs and COA requirements, including title V Permitting;
2. When calculating the number of NO_X and VOC offsets required due to emissions during operation; and
3. When determining the impact of emissions on ambient air and Class I and Class II areas.

Jack-up vessels, support vessels, or other vessels may contain emissions equipment that would otherwise meet the definition of "nonroad engine," as defined in section 216(10) of the CAA. However, based on the specific requirements of CAA section 328, emissions from these otherwise nonroad engines on subject vessels are considered direct emissions from the OCS source they are associated with for the purposes of calculating potential emissions of that OCS source. Similarly, all engines on vessels that meet the definition of an OCS source and are "operating as OCS sources," are regulated as stationary sources and are subject to the applicable requirements of 40 C.F.R. part 55, including control technology requirements.

E. Applicability of the Title V Operating Permit Requirements

For sources located within 25 NM of the States' seaward boundary, Part 55 directs inner OCS sources to comply with Federal, State, and local requirements of the COA (designated pursuant to § 55.5), as set forth in § 55.14 and Appendix A of Part 55, which include state-based regulations promulgated pursuant to satisfy CAA Title V operating permit program requirements. In this case, the COA, i.e., Massachusetts, has a Title V operating permits program, approved pursuant to 40 CFR part 70, at 310 CMR 7.00, Appendix C. [26]

Title V permits compile all applicable requirements of a source in a single permit. In Massachusetts' Title V regulation, applicability to the operating permit requirements is cited at 310 CMR 7.00, Appendix C (2)(a), and includes, among other applicability criteria, sources with the potential to emit 50 tpy of VOC, 50 tpy of NOx, or 100 tpy of any regulated air pollutant, excluding GHGs. NEW2 is a major source as defined in 310 CMR 7.00, Appendix C.

F. Emission Units

As described below, WTGs and ESP(s) will be installed on the seabed within the WDA. The OCS Facility is made up of many WTGs spread out over a wide area of the ocean. Each WTG is firmly fixed to a foundation piece on the seafloor, with a tower that extends up into the air where the blades can make use of higher wind speeds. Each WTG has blades that rotate due to the movement of air. Within the non-rotating part on top of the turbine known as the nacelle, the blades' rotation is passed through a drive shaft, often via gear box, to turn magnets inside a coil of wire which generates an alternating current of electricity. Each WTG sends its power through cables down the tower and under the seabed to an offshore substation, or ESP.[27] An ESP is an offshore platform containing the electrical components necessary to collect the power generated by the WTGs (via the inter-array cable), transform it to a higher voltage and transmit this power to onshore electricity infrastructure (via the export cables). The purpose of the ESP is to reduce the potential electrical losses and maximize the transmission of electricity onshore.

As mentioned earlier, the NEW2 project will consist of up to 88 WTG/ESP positions (up to three of those positions will be occupied by ESPs). The WTGs and ESP(s) will be oriented in an east-west, north-south grid pattern with one NM spacing between positions and will be supported by monopile or piled jacket foundations. The general process for installation of the windfarm involves the installation of the foundations to the sea floor and preparation of the structures for the WTGs and the ESPs. Vessels supply all the WTG components and install them on the foundations.

[26] 310 CMR 7.00, Appendix C is included in Appendix A to Part 55—Listing of State and Local Requirements Incorporated by Reference Into Part 55, by State

[27] More information on the operational nature of an offshore windfarm is available at the Orsted-hosted webpage titled, "How do offshore wind turbines work?" https://us.orsted.com/renewable-energy-solutions/offshore-wind/what-is-offshore-wind-power/how-do-offshore-wind-turbines-work. Last visited, February 23, 2023.

1. Generator Engines

During operations, electricity needed to power auxiliary systems on the WTGs is produced by the WTGs themselves or is supplied from the onshore electric grid through the Project's offshore cables (during low wind conditions or if the WTGs are not operating for other reasons, such as maintenance). If a WTG is temporarily disconnected from the electric grid and winds are insufficient for the WTG to power its auxiliary systems, the WTG's integrated battery system will provide backup power during O&M. The WTG can recharge its battery system when sufficient winds are available.
In the unlikely event that a WTG is disconnected from the electrical grid, winds are too low for the WTG to power its auxiliary systems, and the backup battery power system fails or cannot provide sufficient power, portable diesel generators may be temporarily placed on a WTG (or alternatively on a support vessel) during O&M to supply backup power. These emergency generators would be necessary to maintain safety systems, such as aviation obstruction lights, marine navigation lights, electrical cooling, and dehumidification systems, and the WTG's rotor assembly during adverse weather. If an entire inter-array cable string consisting of up to six WTGs is disconnected from the grid, the Permittee conservatively estimates that as many as six (6) portable emergency generators could be required. The generators would operate in accordance with the requirements for an "emergency stationary internal combustion engine" at 40 C.F.R. §§ 60.4211(f) and 60.4219, which limit the use of emergency engines to 100 hours per year for maintenance checks, readiness testing, and non-emergency situations (limited to 50 hours per year). In this unique circumstance, the maintenance checks and readiness testing are not expected to be conducted while the generator is situated on a WTG or while the generator is being transported to the NEW2 WDA (such activities would occur onshore beforehand); the generators would only operate during emergencies when meeting the definition of an OCS source.

For permitting purposes it is assumed that the ESP(s) will have three (3) permanent generators installed to provide backup power to critical systems. During O&M, these backup generators would operate for emergencies, reliability testing, and potentially limited ESP maintenance (if grid power is unavailable or the maintenance activity requires disconnection from the grid). Because the back-up generators on the ESP(s) may be used for installation and commissioning activities, they are considered non-emergency engines.

2. Gas-Insulated Switchgear (GIS)

Sulfur hexafluoride (SF_6) is used as an electrical and thermal insulating gas in electrical equipment, specifically used in the switchgears located in the ESPs. SF_6 is a greenhouse gas (GHG), having a global warming potential (GWP) of 23,500 times that of carbon dioxide (CO_2). SF_6 has the highest GWP of all GHGs addressed by the Intergovernmental Panel on Climate Change (IPCC) inventory protocols.

3. Vessels

Once operational, the applicant expects to use service operation vessels (SOVs) to execute daily O&M activities. Typically, an SOV is equipped with dynamic positioning system (DPS), a large open deck, appropriate lifting and winch capacity and workspace for O&M workers. The SOV would remain offshore for several days/weeks at a time. Workers would then access the WTGs and ESP(s) to perform routine O&M activities via a gangway directly from the SOV, a crew transfer vessel (CTV), and/or a

smaller daughter craft that resides on the SOV. Daughter craft and/or CTVs would be used to transfer crew to and from shore.

Although less likely, if an SOV or similar accommodation vessel is not used, several CTVs and helicopters would be used to frequently transport crew to and from the NEW2 WDA for inspections, routine maintenance, and minor repairs. CTVs are purpose-built to support offshore wind energy projects and are designed to transport personnel, parts, and equipment safely and quickly.

In addition, other larger support vessels (e.g., jack-up vessels) may be used infrequently during O&M to perform some routine maintenance activities, periodic corrective maintenance, and significant repairs.

NEW2 described the following vessels with air pollutant emitting equipment in the permit application.

Table 2 Description of Vessels Used for O&M

Vessel Type	Description of Vessel Type
Anchor handling tug supply (AHTS) vessels	Vessels that primarily handle and reposition the anchors of other vessels. AHTS vessels may also be used to transport equipment or for other services.
Cable laying vessels	Specialized vessels/barges that lay and bury offshore cables into the seafloor.
Crew transfer vessels (CTVs)	Smaller vessels that transport crew, parts, and equipment to and from the NEW2 during both construction and operations and maintenance (O&M). These vessels may also transport marine mammal observers.
Jack-up vessels	Self-propelled or non-self-propelled vessels that extend legs to the ocean floor to provide a safe, stable working platform. Jack-up vessels may be used to install foundations and/or WTGs, to transport WTG components to the NEW2 WDA, for offshore accommodations, and/or for cable splicing activities.
Service operation vessels (SOVs)	Larger vessels that provide offshore living accommodations and workspace as well as transport crew to and from the NEW2 WDA
Support vessels (e.g., work boats, supply boats, accommodation vessels)	Multipurpose vessels that may be used for a variety of activities, such as clearing the seabed floor of debris prior to laying offshore cables (i.e., a pre-lay grapnel run), supporting cable installation, commissioning WTGs, or transporting equipment.
Survey vessels	Specialized vessels used to perform geophysical and geotechnical surveys.
Tugboats/towboats/push boats	Ocean-going vessels or smaller harbor craft used to transport equipment and barges to the NEW2 WDA.

Some of the vessels used as part of the O&M activities listed above may not meet the definition of an OCS source. CAA Section 328 defines an OCS source as "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) (43 U.S.C. § 1331 et seq.); and (3) is located on the OCS or in or on waters above the OCS." 42 U.S.C. § 7627(a)(4)(C). Such activities "include, but are not limited to, platform and drill ship exploration, construction, development, production, processing, and transportation." *Id.* The OCS regulations, at 40 C.F.R. § 55.2, define an OCS source by first incorporating the statutory language referenced previously and then adding that vessels are considered OCS sources only when they meet either of the following criteria: (1) the vessel is "[p]ermanently 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.);"[28] or (2) the vessel is "[p]hysically attached to an OCS source, in which case only the stationary source aspects of the vessels will be regulated." Thus, for a vessel to be considered an OCS source, it must meet the three statutory criteria of the OCS source definition and one of the two additional criteria in the portion of the regulatory OCS source definition that specifically applies to vessels.

Since all OCS sources are stationary, the EPA considers engines on a vessel to be stationary sources when the engines are operating while the vessel meets the definition of an OCS source.

Moreover, the regulatory definition of OCS source in 40 C.F.R. § 55.2 provides that, for vessels physically attached to an OCS facility, "only the stationary sources [sic] aspects of the vessels will be regulated." For these types of OCS source-vessels, the "stationary source aspects" of the vessel attached to an OCS source are regulated by the permit. In other words, the engines on the vessels will be subject to specific permit conditions, and their emissions when at an OCS source *and its* to-and-fro vessels emissions within 25 NM of the source's centroid will count as direct emissions from the OCS source for determining the PTE of the source. If emissions from engines that comprise the emission units on the vessels were excluded from regulation as stationary sources, Congress's specific grant of authority to EPA in the 1990 CAA amendments to regulate OCS sources would be rendered meaningless. Given that an engine is a stationary source when located on an OCS source for purposes of Section 111 of the CAA[29], it is only logical to determine that these same engines are stationary sources for purposes of other CAA programs, including the operating permit program.

The following subsections describe important categories of vessels in the construction and operations of windfarms and how these vessels' operations relate to the definition of an OCS source since for OCS sources, the stationary source aspects of those vessels will be subject to permitting requirements.

a. Jack-up vessels or jack-up barges

A jack-up vessel meets the definition of an OCS source because it will be performing an activity (i.e., constructing a WTG or an ESP) that meets all of the following criteria:

(1.) The diesel-fired or gasoline-fired generating sets on the vessel will emit air pollutants.
(2.) BOEM will approve, disapprove, or approve with modifications a construction and operation plan that allows the jack-up vessel to construct the WTGs and ESP(s) thus demonstrating the windfarm is authorized under the OCSLA (43 U.S.C. § 1331 *et seq.*); and
(3.) The jack-up vessel will be located on the OCS or in or on waters above the OCS.

Since the jack-up vessel is a vessel, it must meet one of the two criteria for a vessel to be considered an OCS source and thus be included as part of the OCS source that is covered in this permit. The EPA

[28] 40 C.F.R. § 55.2 references section (4)(a)(1) of OCSLA, which states in relevant part that laws of the United States are "extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources, including non-mineral energy resources, therefrom." 43 U.S.C. § 1333(a)(1).
[29] CAA section 328(a)(4)(D) defines the term "new OCS source" to mean "an OCS source which is a new source within the meaning of section [111(a)] of [the CAA]." Inherent in the definition of "new source" under Section 111 is that the source to be regulated is a stationary source. *See* Section 111(a)(2) of the CAA.

considers a jack-up vessel to meet the definition of an OCS source once three of the jack-up vessel's legs have attached to the seafloor, because the jack-up unit has become stationary at this point and is no longer operating as a vessel or a barge. Once that occurs, the jack-up vessel is "erected" on the seabed since the vessel will not be using its engines to maneuver itself at that time and it is in a position according to a plan to conduct OCS activities.

From that point forward, the jack-up vessel's activity and emissions equipment involve developing or producing resources from the seabed by erecting a WTG on the seabed that will convert wind energy into electricity or an ESP to convey this electricity to shore. Once a jack-up vessel becomes an OCS source, all emission units on the jack-up vessel (including the construction equipment) are subject to the applicable terms and conditions of the permit. At the conclusion of the jack-up vessel's construction activities at a given location in the WDA, the construction equipment ceases to operate, and the jack-up legs are raised from the seafloor. The jack-up vessel's stationary source activities thereon remain regulated as part of the OCS source, and subject to the terms and conditions of the permit, until the point in time when fewer than three jack-up legs are attached to the seafloor[30,31]. Once the jack-up vessel is no longer attached to the seabed and no longer erected thereon for the purpose of exploration, production, or development of resources from the seabed, it returns to its status as a vessel and is no longer subject to the stationary source requirements of part 55. However, the jack-up barge and its associated emission units are still always included in the potential emissions

[30] See Vineyard Wind 1 Statement of Basis (pdf): pg 20-23 (2019-06-28) which can be located at https://www.epa.gov/caa-permitting/outer-continental-shelf-wind-energy-database and page 12 of EPA's Response to Comments on the Cape Wind Energy Project, available at https://www.epa.gov/sites/default/files/2015-08/documents/cape-wind-final-response2comments-2011jan7.pdf.

[31] The Environmental Appeals Board (EAB) has issued decisions interpreting the OCS source definitions in CAA Section 328 and the 40 C.F.R. part 55 regulations that may provide guidance when determining if a vessel meets the definition of an OCS source. In one decision, the EAB recognized that "attachment" for purposes of being an OCS source is not ordinarily "so broad" to mean "any physical connection." *In re Shell Gulf of Mex., Inc.*, 15 E.A.D. 193, 199 (E.A.B. 2011) ("*Shell 2011*"). However, in another case, the EAB affirmed EPA Region 10's determination that a drill ship satisfies the requirement of being "attached to" the seabed when one of its anchors is deployed. *In re Shell Gulf of Mex., Inc.*, 15 E.A.D. 470, 488 (E.A.B. 2012) ("*Shell 2012*"). Therefore, vessels operating in the WDA that deploy an anchor that connects to the seabed are similarly attached to the seabed and may be an OCS source if the vessel or other equipment also meet the two other criteria in the definition of "OCS source" contained in 40 C.F.R. part 55 and CAA section 328. In *Shell 2011*, EPA Region 10 determined an icebreaker vessel is not "attached" to a drill ship when the icebreaker is setting or receiving the drill ship's anchors. *Shell 2011* at 194. In making this determination, EPA Region 10 defined the purpose of "attachment" as to "prevent or minimize relative movement" between the vessel and the seabed. *Id*. at 199. Region 10 determined that the icebreaker is not "attached" to the drill ship sufficient to constitute being an OCS source because the icebreaker's anchor cable is "repeatedly connected and disconnected" from one of the drill ship's anchors and is "not intended in any way to restrict the location of" the icebreaker. *Id*. at 200. In finding Region 10's definition of "attachment" to be reasonable, the EAB also noted the anchor cable is "played out" as the icebreaker travels away from the drill ship, meaning the anchor cable is not intended to restrict the location of the icebreaker. *Id*. The EAB compared the intermittent connection of the icebreaker vessel to the drill ship to a vessel at dockside, noting that "attachment" in the context of an OCS source is more like the latter. *Id*. at 200. In *Shell 2012*, the EAB found reasonable EPA Region 10's definition of "erected thereon" as "intended to reflect the process by which a vessel becomes attached to the seabed and used thereafter for the purpose of exploring, developing, or producing resources from the seabed." *Shell 2012* at 491. EPA supported this definition by looking to the customary meaning of the verb "to erect," which is defined as "to construct" or "to build," and thus reasoned that attachment to the seabed must occur "at the location where OCS activity is reasonably expected to occur." *Id*. The phrase "erected thereon" for the purposes of an OCS source definition requires a secure, stationary activity. For example, when a drillship is "erected" on the seabed, it remains stationary while it conducts its OCS activity, and is at the location where the OCS activity (e.g., exploratory drilling) is expected to occur.

calculations for the project when such vessel is within 25 NM of the source's centroid. The jack-up vessel is only subject to the specific emissions limits during the time it meets the definition of an OCS source (is attached to the seabed, erected thereon, and used for the purpose of producing, exploring, or developing resources from the seabed) and thus is regulated as a stationary source under part 55.

b. Crew transfer vessels

During the O&M phase, typically CTVs, SOVs, daughter craft, and/or support vessels/inflatable boats will be used, unless a major repair is needed. For major repairs to heavy components, jack-up or crane barges may be required. Smaller vessels that transport crew, parts, and equipment to and from the WDA during both construction and O&M. These vessels may also transport marine mammal observers.

c. Support and other vessels

In addition to jack-up vessels, other types of vessels may meet the definition of an OCS source at some point during the construction or operations phase of the project. These vessels may meet the definition of an OCS source if they will be performing an activity (i.e., supporting the construction or operations of a WTG or ESP) that meets all three of the following criteria:

1. The gasoline or diesel-powered engines on the vessels will emit air pollutants.
2. BOEM will approve, disapprove, or approve with modifications a construction and operation plan that allows vessels to support the construction of the WTGs and ESP(s) and authorizes a right-of-way for the cable, thus demonstrating the windfarm is authorized under the OCSLA (43 U.S.C. § 1331 *et seq.*); and
3. The vessels will be operating on the OCS or in waters above the OCS.

As stated earlier in this section, the definition of an OCS source in 40 C.F.R. part 55 has further criteria that must be met before a vessel can be considered an OCS source. Servicing fleet vessels used in the windfarm may temporarily attach to a structure that is part of the OCS source, another vessel that meets the definition of an OCS source, or to the seabed itself and be erected thereon (the seabed) and used for the purpose of exploring, developing, or producing resources. The criteria within the definition of an OCS source for when a vessel becomes an OCS source depends on how a vessel is, in essence, remaining stationary on the OCS (i.e., how it attaches itself to an existing OCS facility or to the seabed) and, in the case of attachment to the seabed, whether the vessel is also erected thereon and used for the purpose of exploring, developing, or producing resources therefrom (including non-mineral resources). For service fleet vessels attached to an OCS facility, only the stationary source activity occurring on the vessel will be regulated by permit conditions. The EPA has determined that all air emission units on a service fleet vessel, while that vessel meets the definition of an OCS source, constitute a stationary source activity because the vessel will be stationary and the reason for the vessel to be on the waters above the OCS is to assist in the construction of a stationary source, i.e., a WTG or an ESP.

For service fleet vessels that do not attach to an OCS facility, but temporarily or permanently attach to the seabed, the service fleet vessel will be considered an OCS source when it is erected on the seabed

and is used for the purpose of exploring, developing, or producing resources from the seabed.[32] Like the jack-up vessels, the criteria "erected thereon" is met when in the WDA the service fleet vessel attaches itself to the seabed and is in a location where it can reasonably be expected to conduct OCS activities; thus becoming stationary and used thereafter for the purpose of exploring, developing, or producing resources from the seabed like constructing a WTG or an ESP. From that point forward, the service fleet vessel's operations and emissions are related to developing or producing resources from the seabed by erecting a WTG or the ESP on the seabed that will convert wind energy into electricity.

[32] Per Section 328 of the CAA, emissions from any vessel servicing or associated with an OCS source, including emissions while at the OCS source or en route to or from the OCS source within 25 miles of the OCS source, shall be considered direct emissions from the OCS source. Therefore, emission from the service fleet vessel are still subject to the permit's NNSR offset requirements during the operational phase of the project and once the service fleet vessel is no longer meeting the criteria for an OCS source.

IV. Equipment

The following tables are a narrative description of the proposed equipment regulated as an OCS source under this permit.

A. EUG 1 OCS Generator Engine(s) Installed on the ESP(s) and/or WTG(s)

Table 3 EUG1 OCS Generator Engine(s) Installed on the ESP(s) and/or WTG(s)

EU ID	Description	Type of Equipment	Engine Count	Engine Rating, kW	Installation Date
ENG 2-2, ENG 2-3, ENG 2-4	ESP Permanent Generators	Non-Emergency Generators on ESP(s)	3	450	Expected 2027-2028
ENG 2-5 through ENG 2-10	WTG O&M Emergency Backup	Emergency Generator on WTGs	6	150	TBD (In the event of an emergency)

B. EUG 2 Marine Engines on Vessels when Operating as OCS Source(s)

The project's emission sources will primarily be compression-ignition internal combustion engines (CI-ICE). These include engines on marine vessels while operating as OCS source(s) and engines on the WTG(s) and ESP(s). A marine vessel typically has two (2) types of engines: 1) propulsion engines, also referred to as main engines, which supply power to move the vessel but could also be used to supply power for purposes of performing a given stationary source function (for example, to lift, support, and orient the components of each WTG); and 2) auxiliary engines, which supply power for non-propulsion loads (e.g., electrical loads).

Table 4 EUG 2 Marine Engines on Vessels when Operating as OCS Source(s)

Vessel Type	Main Engine Rating (kW)	# Main Engines	Auxiliary Engine Rating (kW)	# Auxiliary Engines	Date of Installation
Daily Operations - O&M					
Daily crew transfer vessel 1 / Crew transfer vessel	515	4	20	2	Expected 2027
Daily crew transfer vessel 2 / Crew transfer vessel	515	4	20	2	Expected 2027
SOV Daughter Craft 1 / Crew transfer vessel	246	2	NA - Battery	NA - Battery	Expected 2027
SOV Daughter Craft 2 / Crew transfer vessel	246	2	NA - Battery	NA - Battery	Expected 2027
WTG Inspection/Maintenance/Replacement - O&M					

Vessel Type	Main Engine Rating (kW)	# Main Engines	Auxiliary Engine Rating (kW)	# Auxiliary Engines	Date of Installation
WTG main repair jack-up vessel / Jack-up vessel (installation)	one 5,760 kW, two 4,230 kW	3	2,880	1	Expected 2027
Jack-up vessel to support repair / Jack-up vessel	2,350	2	1,000	2	Expected 2027

C. EUG 3 Gas-Insulated Switchgears (GIS) on WTG and ESP

Other emission units at this facility include the low voltage ("LV") gas-insulated switchgears ("GIS") on the WTG and the medium voltage ("MV") and high-voltage ("HV") GIS on the ESP(s).

Table 5 Gas Insulated Switchgears (GIS) on WTG and ESP

EU ID	Description	Count (# GIS)	Installation Date
LV-GIS	LV GIS on WTGs	LV-GIS: 88	Expected 2027-2028
MV-GIS, HV-GIS	MV GIS (66-132 kV) on ESP & HV GIS (220-275 kV) on ESP	MV-GIS: 22 HV-GIS: 18	Expected 2027-2028

Note: The application provided the total quantity of SF_6 in the ESP(s). The total quantity of SF_6 was based on a preliminary design for an 800 MW ESP that contained eighteen 220 kV GIS and twenty-two 66 kV GIS, with the quantities of SF_6 in each switchgear scaled up to a 1,200 MW ESP. However, because the design and electrical configuration of the ESP(s) has not been finalized, the number of individual GIS on the ESP(s) is not yet final. Similarly, since the design and electrical configuration of the WTGs has not been finalized, the number of individual GIS on each WTG is not yet final. Per the Permits OCS-R1-08 and OCS-R1-08-TV, SF_6-free equipment is required to be used on the WTG(s).

V. Emissions

Permit limits are justified through PSD and NNSR analysis as contained in Permit No. OCS-R1-08, including BACT and LAER analyses, and modeling to document compliance with the NAAQS.

A. EUG 1 OCS Generator Engine(s) Installed on the ESP(s) and/or WTG(s)

A BACT and LAER analysis on NOx, VOC, CO, NOx, PM/PM_{10}/$PM_{2.5}$, and GHG on ENG-2 through ENG-12 was completed and authorized in Permit No. OCS-R1-07 which was issued by EPA on April 15, 2024. Per the BACT and LAER analyses, OCS generator engines installed on the ESP(s) and WTGs are required to be certified to the most stringent emission standards contained in 40 C.F.R. part 60, subpart IIII, operated in accordance with the GCOP Plan, and are required to utilize ULSD (15 ppm) in engines that have a displacement less than 30 L/cylinder.

Emissions of CO, NOx, PM/PM_{10}/$PM_{2.5}$, and VOC from ENG 2-2, ENG 2-3, and ENG 2-4 are estimated using the maximum power of the unit, emission factors from Tier 3 Marine Standards in 40 C.F.R. 1042,

500 hours per year of operation, and the maximum rated brake-specific-kilowatt-rating from the manufacturer specifications sheets. Emissions of SO_2, CO_2, Pb, and HAPs from ENG 2-2, ENG 2-3, and ENG 2-4 are estimated using emission factors from AP-42 Table 3.1-5 (04/00) and Table 3.3-2 (10/96). Emission factors for GHGs are from 40 CFR part 98. SO_2 emissions from the generators were calculated based on the consumption of diesel fuel containing 15 ppm sulfur with a fuel density of 7.1 lbs/gal and assuming 100% conversion of sulfur to SO_2 (a 2:1 mass ratio of SO_2 to sulfur).

Emissions of CO, NOx, $PM/PM_{10}/PM_{2.5}$, and VOC from ENG 2-5 through ENG 2-10 are estimated using the maximum power of the unit, emission factors from Tier 3 Marine Standards in 40 CFR 1042, 100 hours per year of operation[33], and the maximum rated brake-specific-kilowatt-rating from the manufacturer specifications sheets. Applicant has assumed 100 hours per year for estimating the number of hours each emergency generator could be expected to operate under worst-case conditions in what is characterized as an unlikely scenario. Emissions of CO_2, Pb, and HAPs from ENG 2-5 through ENG 2-10 are estimated using emission factors from AP-42 Table 3.1-5 (04/00) and Table 3.3-2 (10/96). SO_2 emissions from the generators were calculated based on the consumption of diesel fuel containing 15 ppm sulfur with a fuel density of 7.1 lbs/gal and assuming 100% conversion of sulfur to SO_2 (a 2:1 mass ratio of SO_2 to sulfur).

Note that for potential emissions estimations, the applicant has assumed 97.6% of the combined HC +NOx standard is NOx and 2.4% of the combined HC +NOx standard is VOC based on the VW1 and South Fork OCS Air Permits. However, for purposes of compliance with the facility-wide limitation in the specific conditions of the permit, the applicant is required to use manufacturers specifications that indicate specific NO_X/HC ratios, or specific HC or VOC emission factors.

Table 6 – EUG 1 OCS Generators Engine(s) Installed on the ESPs and/or WTGs

EU ID	Description	Engine Rating, kW	No. of Engines	Max Standby Fuel Usage (gal/hr)
ENG 2-2, ENG 2-3, ENG 2-4	ESP Permanent Generators	450 (603 hp[34])	3	34.8[35]
ENG 2-5 through ENG 2-10	WTG O&M Emergency Backup	150 (201 hp)	6	10.0[36]

Table 7 - Emissions from the ESP Permanent Generators (ENG 2-2, ENG 2-3, ENG 2-4)

Pollutant	Source[1]	Emission Factor		Emissions – Per Engine	
		Value	Units	Max. (lb/hr)	Annual (TPY)
CO	BACT Limit	5.0	g/kW-hr	4.96	1.24
NO_X	LAER Limit	5.7	g/kW-hr	5.65	1.41

[33] In the unlikely event that a WTG is disconnected from the electrical grid, winds are too low for the WTG to power its auxiliary systems, and the backup battery power system fails or cannot provide sufficient power, portable diesel generators may be temporarily placed on a WTG (or alternatively on a support vessel) during O&M to supply backup power.
[34] 1 kW = 1.34102 HP
[35] Fuel use @ 100% load from spec sheets based on Caterpillar CAT® C15 ACERT 450 kW
[36] Fuel use @ 100% load from spec sheets based on Aggreko 125 kW genset

Pollutant	Source[1]	Emission Factor		Emissions – Per Engine	
		Value	Units	Max. (lb/hr)	Annual (TPY)
PM	BACT Limit	0.1	g/kW-hr	0.10	0.02
PM_{10}	BACT Limit	0.1[37]	g/kW-hr	0.10	0.02
$PM_{2.5}$	BACT Limit	0.097[38]	g/kW-hr	0.10	0.02
SO_2	--	0.000213	Lb/gal	0.01	<0.01
VOC	LAER Limit	0.14	g/kW-hr	0.14	0.03
CO_2	--	22.50	Lb/gal	783.00	195.75
Pb[39]	--	$1.9x10^{-6}$	Lb/gal	0.0001	<0.01
HAPs[40,45]	--	$3.53x10^{-4}$	Lb/gal	0.01	0.003

[1] Established in NEW2 OCS Preconstruction Air Permit No. OCS-R1-08

Table 8 - Emissions from the WTG O&M Emergency Backup Generators (ENG 2-5 – ENG 2-10)

Pollutant	Source[1]	Emission Factor		Emissions	
		Value	Units	Max. (lb/hr)	Annual (TPY)
CO	BACT Limit	5.0	g/kW-hr	4.96	0.25
NO_X	LAER Limit	5.27	g/kW-hr	5.23	0.26
PM	BACT Limit	0.1	g/kW-hr	0.10	0.01
PM_{10}	BACT Limit	0.12[41]	g/kW-hr	0.12	0.01
$PM_{2.5}$	BACT Limit	0.1164[42]	g/kW-hr	0.12	0.01
SO_2	--	0.000213	Lb/gal	0.01	<0.01
VOC	LAER Limit	0.13	g/kW-hr	0.13	0.01
CO_2	--	22.50	Lb/gal	225	11.25
Pb[43]	--	$1.9x10^{-6}$	Lb/gal	0.0001	<0.01
HAPs[44,50]	--	$6.64x10^{-4}$	Lb/gal	0.02	0.0003

[1] Established in NEW2 OCS Preconstruction Air Permit No. OCS-R1-08

B. EUG 2 Marine Engines on Vessels when Operating as OCS Source(s)

A BACT and LAER analysis on NOx, VOC, CO, NOx, PM/PM_{10}/$PM_{2.5}$, and GHG on EUG 2 emission units was conducted for the issuance of Permit No. OCS-R1-07, which was issued final by EPA on April 15, 2024. Per the BACT and LAER analyses, the permittee is required to utilize vessels with the most stringent applicable emission standards (short term standards in terms of g/kW-hr) within 40 C.F.R. part 1042 at time of deployment[45]. Certain specified vessel types[46]shall, at a minimum, comply with

[37] Assumed PM_{10} is 100% of PM
[38] Assumed $PM_{2.5}$ is 97% of PM
[39] Emission Factor Source: AP-42, Table 3.1-5 (04/00)
[40] Emission Factor Source: AP-42. Table 3.3-2 (10/96)
[41] Assumed PM10 is 100% of PM
[42] Assumed PM2.5 is 97% of PM
[43] Emission Factor Source: AP-42, Table 3.1-5 (04/00)
[44] Emission Factor Source: AP-42. Table 3.3-2 (10/96)
[45] The specific condition requires the selection of the cleanest vessel available within the contracted fleet. Note that the 2-hour requirement is not relative to the amount of time to travel to the WDA or conduct work on the WDA facility but rather to ensure construction isn't delayed if a cleaner vessel is available after 2 hours from the scheduled deployment time.
[46] LAER considered the SIP limitations for similar class of source, and thus some vessels have a more stringent minimum engine tier requirement.

emission limits equal to or more stringent than EPA Tier 2 marine engine emission standards. All other vessel types are required, at a minimum, to comply with emission limits equal to or more stringent than EPA Tier 1 marine engine emission standards.

Potential emissions from commercial marine vessels operating as OCS source(s), identified in Table 9 below, were calculated according to the methodology described below[47]. Vessel air emissions were calculated based on vessels' engine sizes, assumed hours of operation, load factor, and marine engine emission factors based on fleet-weighted averages (range of vessel types and sizes expected to be employed during the Project), as presented in Version 1 of BOEM's Emissions Estimating Tool.[48]

For each OCS Source vessel, four calculations were made: 1.) Emissions from the main engines while in transit, 2.) Emissions from the main engines while maneuvering, 3.) Emissions from the auxiliary engines while in transit, and 4.) Emissions from the auxiliary engines while maneuvering.[49] Note that the emission estimates do not include emissions associated with boilers used to generate steam. Any thermal energy needs (e.g., hot water) on vessels will typically be met using excess heat from the vessel's engines or electric heaters.

The equation used for each of the calculations above is:

$$E = kW \times Hours \times LF \times EF \times 1.10231x\,10^{-6}$$

- E = total emissions (United States [US] tons)
- kW = total engine size (kilowatt [kW])
- Hours = duration of each activity (hours)
- LF= engine load factor (unitless)
- EF = emission factor (grams/kilowatt-hour [g/kW-hr])
- 1.10231 x 10^{-6} = grams to ton conversion factor

Table 9 Marine Engines on Vessels when Operating as OCS Source(s)

Vessel Type	Main Engine Rating (kW)	# Main Engines	Auxiliary Engine Rating (kW)	# Auxiliary Engines	Date of Installation
Daily Operations - O&M					

[47] See Section V.D for Potential Emissions from Vessels Servicing or Associated with an OCS source.

[48] Note that for purposes of demonstrating compliance with the VOC and NOx emissions from OCS sources, the Permittee is required to utilize emission factors from: an EPA-issued Certificate of Conformity (COC) for each engine subject to the emission standards in 40 C.F.R. part 60, NSPS IIII, Tier Marine Engine Standards at 40 C.F.R. part 1042, or Nonroad Engine Standards at 40 C.F.R. part 1039; engine manufacturer specifications; site-specific testing derived factors; engine manufacturer's testing data; or an applicable Engine International Air Pollution Prevention ("EIAPP") or International Air Pollution Prevention ("IAPP") certificate, issued by EPA, containing associated engine Annex VI NO_X standards.

[49] Maneuvering represents the power required by a given vessel that use dynamic positioning (DP) to maintain a precise location. *See* NEW2 1/13/2023 Application.

Vessel Type	Main Engine Rating (kW)	# Main Engines	Auxiliary Engine Rating (kW)	# Auxiliary Engines	Date of Installation
Daily crew transfer vessel 1 / Crew transfer vessel	515	4	20	2	Expected 2026
Daily crew transfer vessel 2 / Crew transfer vessel	515	4	20	2	Expected 2026
SOV Daughter Craft 1 / Crew transfer vessel	246	2	NA - Battery	NA - Battery	Expected 2026
SOV Daughter Craft 2 / Crew transfer vessel	246	2	NA - Battery	NA - Battery	Expected 2026
WTG Inspection/Maintenance/Replacement - O&M					
WTG main repair jack-up vessel / Jack-up vessel (installation)	one 5,760 kW, two 4,230 kW	3	2,880	1	Expected 2026
Jack-up vessel to support repair / Jack-up vessel	2,350	2	1,000	2	Expected 2026

C. EUG 3 Gas-Insulated Switchgears (GIS) on WTG and ESP

The NEW2 OCS Air Permit application provided the total quantity of SF_6 in the ESP(s). The BACT requirements from the project's preconstruction PSD permit for the LV-GIS consisted of SF_6-free equipment. The BACT requirements for the MV and HV GIS consisted of a Sealed System with leak detection and alarms, repair of detected SF_6 leaks from switchgear within 5 days of discovery, and a maximum annual leak rate not to exceed 0.5%. The total quantity of SF_6 was based on a preliminary design for an 800 MW ESP that contained eighteen (18) 220 kV GIS and twenty-two (22) 66 kV GIS, with the quantities scaled up to a 1,200 MW ESP. However, because the design and electrical configuration of the ESP(s) has not been finalized, the number of individual GIS on the ESP(s) is not yet final.

Table 10 – Potential Annual Emissions of SF_6

EU ID	No. of GIS (per ESP)	Mass SF6 per GIS
66 kV GIS - ESP	22	281 lbs
220 kV GIS -ESP	18	413 lbs
Total mass SF_6 in ESP per 1,200 MW		13,616 lbs
BACT Limit: Max annual leak rate of SF_6[50]		0.50%

[50] As established via BACT. *See* NEW2 OCS Preconstruction Air Permit No. OCS-R1-08.

CO_2e factor for SF_6[51]	25,200
Annual CO_2e for SF_6 per ESP[52]	**858 tons**

D. Potential Emissions from Vessels Servicing or Associated with an OCS Source

For the purposes of determining potential emissions from vessels servicing or associated with an OCS source[53], the applicant has used the centroid of the NEW2 WDA as the point to estimate support vessel emissions within 25 NM of the facility[54]. Hours of operation for a vessel's engines while in transit were calculated from the vessel's speed and total distance traveled by the vessel while within 25 NM of the centroid of the NEW2 WDA. Vessel air emissions were calculated based on vessels' engine sizes[55], assumed hours of operation[56], load factor, and marine engine emission factors based on fleet-weighted averages (range of vessel types and sizes expected to be employed during the Project), as presented in Version 1 of BOEM's Emissions Estimating Tool.[57]

E. Facility-Wide Emissions

Criteria Pollutants

Table 11 contains NEW2 project's maximum potential emissions during the O&M phase (post-operational phase start date), as contained in NEW2's emission estimates provided to the EPA on January 13, 2023. Note that the estimates during the O&M phase represent the annualized worst-case potential to emit and assumes the facility is operating at the maximum production capacity.

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[51] *See* eCFR: 40 CFR Part 98 Subpart A -- General Provision (https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98/subpart-A). However, the applicant has chosen to use a CO_2e factor of 25,200. See Section 2.2.4 of Appendix A of the NEW2 OCS Air Permit Application, January 13, 2023.

[52] $Annual\ CO_2e\ for\ SF_6\ per\ ESP = Total\ mass\ SF_6 per\ ESP * Max\ annual\ leak\ rate\ of\ SF_6 * CO_2e\ factor\ for\ SF_6$

[53] Some of the vessels used as part of the O&M activities may not meet the definition of an OCS source (and are otherwise not included in EUG 1, EUG 2, or EUG 3). However, pursuant to section 328 of the Act, emissions from vessels servicing or associated with an OCS source shall be considered direct emissions from such a source while at the source, and while enroute to or from the source when within 25 miles of the source and shall be included in the "potential to emit" for an OCS source. Thus, emissions from vessels servicing or associated with an OCS source that are at the source, traveling to the source, or traveling from the source (when within 25 NM) are considered in determining the potential to emit (PTE) or "potential emissions" of the OCS source, regardless of whether they meet the definition of an OCS source.

[54] EPA utilizes the centroid of the Wind Development Area to estimate PTE within 25 nautical miles of the source's centroid. See Vineyard Wind 1 Statement of Basis: pg. 11-14 (2019-06-28) located at https://www.epa.gov/caa-permitting/outer-continental-shelf-wind-energy-database for more information on this concept.

[55] Engine sizes were largely based on the specifications of actual vessels/equipment that may be used for the Project or are closely representative of the type of vessels/equipment that are expected to be used.

[56] The duration of each activity and the number of vessel trips were provided by the Proponent's engineers.

[57] Note that for purposes of demonstrating compliance with the VOC and NOx emissions from vessels servicing or associated with an OCS Facility while at the OCS Facility, and while enroute to or from the OCS Facility when within 25 NM of the OCS Facility without a Certificate of Conformity, EIAPP certificate, or IAPP certificate, the Permittee shall utilize the most representative NOx and VOC emission factors for the vessel utilized as contained in the EPA Port Emissions Inventory Guidance (EPA-420-B-22-011, April 2022).

Table 11 Estimated Operations and Maintenance Emissions (TPY) for the NEW2 Project

CO_2e	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	Lead	VOC
20,676	72	287	10	9	1.0	<0.01	5

F. Total Source Emissions

Criteria Pollutants

Vineyard Wind 1, LLC (owner of the VW1 project), Park City Wind, LLC (owner of the NEW1 project), and Commonwealth Wind, LLC (owner of the NEW2 project) qualify as one (1) stationary source for CAA permitting purposes under applicable regulations. More information on the reasons why these facilities qualify as one stationary source for CAA permitting purposes can be found in Section III.D of this Statement of Basis. The boundary between the facilities forms the basis for determining whether a particular piece of equipment and source of emissions is considered to belong to Commonwealth Wind, LLC and for which permit it should be addressed. The operation of VW1, is addressed in a separate title V operating permit. NEW1 will also operate under a separate title V operating permit from this permit.

The following table summarizes the combined potential to emit emissions for all three project(s) projects that comprise this source. Since the potential emissions of NOx exceeds 50 TPY and CO exceed 100 TPY, the facility is a major source for these pollutants.[58]

Table 12 Combined O&M Emissions (TPY) for VW1 LLC[59], Park City Wind, LLC and Commonwealth Wind, LLC[60]

CO_2e	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	Lead	VOC
45,864	164	646	22	21	2	<0.01	12

Hazardous Air Pollutants (HAPs)

Since potential emissions of a single HAP is less than 10 TPY and total combined HAPs are less than 25 TPY, the facility is not a major source of HAP.

G. Insignificant Activities Under 310 CMR 7.00: Appendix C (5)(i)

The insignificant activities identified and justified in the permit application are duplicated below.

1. Office activities and the equipment and implements used therein, such as typewriters, printers, and pens;
2. Interior maintenance activities and the equipment and supplies used therein, such as janitorial cleaning products and air fresheners; this does not include any cleaning of production equipment or activities regulated by 310 CMR 7.18;

[58] Per the definition of *Major Source* as contained in 310 CMR 7.00 Appendix C

[59] As contained in the Statement of Basis for Vineyard Wind 1, LLC dated June 28, 2019.

[60] As contained in the Statement of Basis for Commonwealth Wind, LLC dated December 19, 2023.

3. Bathroom and locker room ventilation and maintenance;
4. Copying and duplication activities for internal use and for support of office activities at the facility;
5. The activities not regulated by 310 CMR 7.18 in maintenance shops, such as welding, gluing, soldering;
6. First aid or emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation;
7. Laundry operations that service uniforms or other clothing used at the facility that are not regulated by 310 CMR 7.18;
8. Architectural maintenance activities conducted to take care of the buildings and structures at the facility, including repainting, reroofing, and sandblasting;
9. Food preparation to service facility cafeterias and dining rooms;
10. Liquid petroleum gas (LPG) or petroleum fuels used to power the facility's mobile equipment and not otherwise regulated by the Department;
11. Non-process related surface coating and painting which exclusively use nonrefillable aerosol cans;
12. Vacuum cleaning systems used exclusively for commercial or residential housekeeping;
13. Ventilating systems used exclusively for heating and cooling buildings, for the comfort of people living or working within the building serviced by said system, which EPA has determined need not be contained in an operating permit;

VI. COA Emission Control Requirements

As previously stated, the COA for the windfarm is the Commonwealth of Massachusetts. Thus, the project is subject to applicable provisions of the Massachusetts air pollution control regulations which are codified at 310 CMR 4.00 (Timely Action Schedule and Fee Provisions), 6.00 (Ambient Air Quality Standards for the Commonwealth of Massachusetts), 7.00 (Air Pollution Control), and 8.00 (The Prevention and/or Abatement of Air Pollution Episode and Air Pollution Incident Emergencies). These Massachusetts regulations are incorporated by reference in 40 C.F.R. part 55, appendix A. This section identifies which Massachusetts regulations incorporated into appendix A apply to the windfarm, including the vessels that meet the definition of an OCS source and which regulations result in terms and condition(s) specified in Permit No. OCS-R1-08-TV.

For the purposes of fulfilling requirements for pollutants below major source thresholds but above the state's minor source permitting or plan approval threshold, a BACT determination[61] was made in previous permits for sulfur dioxide (SO_2).

[61] In accordance with MassDEP's BACT guidance document https://www.mass.gov/doc/best-available-control-technology-bact-guidance/download.

310 CMR 7.00 contains the following definitions, which are important to note when assessing the regulatory requirements of the COA.

Building, Structure, Facility, or Installation means all the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Any marine vessel is a part of a facility while docked at the facility. Any marine vessel is a part of an OCS source while docked at and within 25 NM en route to and from the OCS source's centroid.

Marine Vessel means any tugboat, tanker, freighter, barge, passenger ship, or any other boat, ship, or watercraft except those used primarily for recreation.

Stationary Source means any building, structure, facility, or installation which emits, or which may emit any air pollutant subject to regulation under the Act.

a) A stationary source may consist of one or more emissions units, and
    1. may be a land-based point or area source; or
    2. may be in, or on, the OCS or other submerged lands beneath navigable waters (lakes, rivers, and coastal waters adjacent to Outer Continental Shelf lands); or
    3. may be any internal combustion engine, or engine combination, greater than 175 horsepower (hp) used for any stationary application; or
    4. may be any internal combustion engine regulated under Sec. 111 (NSPS) of the Act, regardless of size; or
    5. may be any internal combustion engine of less than 175 horsepower (hp) not actually controlled to meet a regulation under Sec. 213 (Nonroad Engines and Vehicles) of the Act.
b) A stationary source does not include:
    1. emissions resulting directly from an internal combustion engine for transportation purposes; or

    2. tailpipe emissions from any source regulated under title II of the Act or any emissions from in-transit, non-OCS marine vessels.

Fuel Utilization Facility means any furnace(s), fuel burning equipment, boiler(s), space heaters or any appurtenance thereto used for the burning of fuels, for the emission of products of combustion, or in connection with any process which generates heat and emits products of combustion but does not mean a motor vehicle or an incinerator.

Distillate Fuel Oil means No. 1 or No. 2 fuel oil.

*Residual Fuel Oil m*eans No. 4, No. 5, or No. 6 fuel oil.

A. 310 CMR 7.02: Plan Approval and Emission Limitations

The project must meet the requirements for a comprehensive plan approval (CPA) under 310 CMR 7.02(5)(a)(7). To comply with a CPA, Massachusetts' regulations indicate that a BACT analysis is required. *See* 310 CMR 7.02(8)(a)(2). Project emissions for SO_2 fall below PSD applicability thresholds

but above thresholds for sources subject to Massachusetts minor NSR permitting and thus require a BACT analysis.[62,63] State BACT requirements derived from Massachusetts's regulations apply for SO_2. Massachusetts BACT analysis[64] utilizes a 5-step top case BACT[65] procedure that is like the federal top-down BACT analysis to eliminate technically infeasible air pollution control technologies and arrive at the selected emission limit for the project. However, for this NEW 2 SO_2 BACT analysis, EPA is proposing to apply the top-down BACT analysis determination process as described in Section **Error! Reference source not found.** rather than the Massachusetts top case BACT analysis, which may subject a source to a BACT selected technology that has been demonstrated to be effective for a source from the same industrial sector in the state, due to the unique characteristics of wind farm permitting and the limited amount of information available about prior BACT determinations for the emerging OCS wind energy development industry. *See* 310 CMR 7.02(8)(a)2.c.

Therefore, in no event shall application of BACT result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 C.F.R. parts 60 and 61. SO_2 State BACT is proposed to be equivalent to the fuel sulfur content requirement to utilize ultra-low sulfur diesel (ULSD) fuel as required in 40 C.F.R. part 60, subpart IIII, and North American Emission Control Area (ECA) compliant marine fuel as contained in 40 C.F.R. part 1090, depending on engine type.

Furthermore, and per the requirements of 40 C.F.R. § 1090.325, sulfur content in fuel is restricted to using ULSD (at 15 ppm sulfur content) for all non-Category 3 marine engines and nonroad engines. ECA marine fuel must meet the 1000 ppm sulfur content limit for fuel used in category 3 vessels operating in ECAs. BACT also includes prioritizing the use of ULSD in Category 3 marine engines in lieu of ECA-compliant 1,000 ppm sulfur marine diesel fuel when it is feasible to do so. If ULSD is determined not feasible for use in Category 3 marine engines, the fuel sulfur limits of 1,000 ppm that apply to ships operating in specially designated ECAs is presumed to satisfy SO_2 State BACT.

B. 310 CMR 7.04: U Fossil Fuel Utilization Facilities

310 CMR 7.04(2) specifies that any person owning or operating a fuel utilization facility with an energy input capacity equal to or greater than 40 metric million British thermal unit per hour (MMBtu/hr) must install and maintain a smoke density sensing instrument and recorder. According to 310 CMR 7.04(2)(c), the applicability of this requirement is based on the size of an individual fuel utilization

[62] 310 CMR 7.02(8)(a)(2) stipulates that a BACT analysis per state guidance is required for all plan approvals, i.e., comprehensive and limited plan approvals covering either major or minor sources emitting above the "significance" threshold for an air pollutant. MassDEP's has guidance available for these determinations at: https://www.mass.gov/doc/best-available-control-technology-bact-guidance/download.

[63] In Massachusetts, a comprehensive plan approval is required for "[a]ny facility where the construction, substantial reconstruction, alteration or subsequent operation would result in an increase in potential emissions of a single air contaminant equal to or greater than ten tons per year, calculated over any consecutive 12-month time period." 310 CMR 7.02(5)(a)(1). A limited plan approval is required for "[a]ny facility where the construction, substantial reconstruction, alteration or subsequent operation would result in an increase in potential emissions of a single air contaminant equal to or greater than one ton per year and less than ten tons per year, calculated over any consecutive 12-month time period." 310 CMR 7.02(4)(a).

[64] A BACT analysis is not required for lead, as the emissions from lead fall below the Massachusetts' permitting and approval plan thresholds.

[65] *See* MassDEP's "Top Case Best Available Control Technology (BACT) Guidelines" at https://www.mass.gov/doc/top-case-bact-guidelines/.

emission unit. Engines on the largest vessels that become OCS sources (those larger than ~4,300 kilowatts [kW]) could have an energy input capacity of 40 MMBtu/hr or greater. Given that any vessel potentially subject to this requirement would only be an OCS source for limited amount of time, in lieu of the requirement to install and maintain a smoke density sensing instrument for such a vessel, the permittee shall conducting visible emission tests using EPA test method 22.

310 CMR 7.04(4)(b) specifies that no person shall cause, suffer, allow, or permit the removal, alteration or shall otherwise render inoperative any air pollution control equipment which has been installed as a requirement of 310 CMR 7.00, other than for reasonable maintenance periods or unexpected and unavoidable failure of equipment.

310 CMR 7.04(6) specifies that no person shall cause, suffer, allow, or permit the installation or use of any material, article, machine, equipment, or contrivance which conceals an emission without reducing the total weight of emissions where such emission would constitute a violation of any applicable regulation.

Many of the Project's OCS sources are fuel burning equipment that meet the definition of fuel utilization facility. All requirements contained in this regulation have been incorporated into the permit.

C. 310 CMR 7.05: Fuels All Districts

310 CMR 7.05(1)(a)(1) specifies that no person owning, leasing, or controlling the operation of a fossil fuel utilization facility shall cause, suffer, allow, or permit the burning therein of any liquid fossil fuel having a sulfur content more than that listed in 310 CMR 7.05(1)(a)1.: Table 1 and in accordance with the associated timelines contained in the same table. For distillate oil (statewide), the sulfur content is restricted to 15 ppm which is equivalent to the fuel sulfur content requirement to utilize ULSD as contained in 40 C.F.R. part 60, subpart IIII.

310 CMR 7.05(1)(a)(3) specifies that on and after July 1, 2007, no person owning, leasing or controlling a stationary engine or turbine subject to the requirements of 310 CMR 7.02(8)(i), 310 CMR 7.03(10), or 310 CMR 7.26(40) through (44) shall accept for delivery for burning any diesel or other fuel unless said fuel complies with the applicable U.S. Environmental Protection Agency sulfur limits for fuel pursuant to 40 C.F.R. 80.29, 40 C.F.R. 80.500, and 40 C.F.R. 80.520(a) and (b) as in effect January 18, 2001.

EPA notes that the fuel regulations, previously within 40 C.F.R. part 80, have been incorporated into 40 C.F.R. part 1090 as of January 1, 2022. Per the definitions contained within 310 CMR 7.00, a marine vessel is an OCS source while docked at and/or within 25 NM en route to and from the OCS source. Therefore, any marine vessels that meet the definition of an OCS source are subject to this subpart when operating in the manner specified. All engines installed on WTGs or ESPs are also subject to the requirements of this section. All requirements contained in this regulation have been incorporated into the permit.

D. 310 CMR 7.06: Visible Emissions

310 CMR 7.06(1)(a) No person shall cause, suffer, allow, or permit the emission of smoke which has a shade, density, or appearance equal to or greater than No. 1 of the [Ringlemann Scale] Chart for a period, or aggregate period of time in excess of six minutes during any one hour, provided that at no time during the said six minutes shall the shade, density, or appearance be equal to or greater than No. 2 of the Chart.

310 CMR 7.06(1)(b) No person shall cause, suffer, allow or permit the operation of a facility so as to emit contaminant(s), exclusive of uncombined water or smoke subject to 310 CMR 7.06(1)(a) of such opacity which, in the opinion of the Department, could be reasonably controlled through the application of modern technology of control and a good Standard Operating Procedure, and in no case, shall exceed 20% opacity for a period or aggregate period of time in excess of two minutes during any one hour provided that, at no time during the said two minutes shall the opacity exceed 40%.

310 CMR 7.06(3) contains specific requirements that apply to marine vessels. All tailpipe emissions from OCS marine vessels (in-transit and when docked), and offshore engines installed on the WTGs and/or ESPs are subject to the visible emission standards contained in this section. Note that tailpipe emissions from any source regulated under Title II of the Act or any emissions from in-transit, non-OCS marine vessels are not subject to the requirements of this subpart. 310 CMR 7.06(3) specifies that marine vessels shall be subject to the provisions of 310 CMR 7.06(1)(a) and 7.06(1)(b). 310 CMR 7.06(3) shall apply only in the Merrimack Valley Air Pollution Control District, Metropolitan Boston Air Pollution Control District, and the Southeastern Massachusetts Air Pollution Control District.

310 CMR 7.06(6) specifies that no person shall cause, suffer, allow, or permit excessive emission of visible air contaminants, other than water, from non-stationary source diesel engines. All requirements contained in this regulation have been incorporated into the permit.

E. 310 CMR 7.09: Dust, Odor, Construction and Demolition

310 CMR 7.09(1) specifies that no person having control of any dust or odor generating operations such as, but not limited to asphalt batching plants, asphalt roofing materials manufacturing plants, asphalt blowing plants, foundries, chemical products manufacturing plants, incinerators, fuel utilization facilities, petroleum products manufacturing plants, aggregate manufacturing plants, food preparation or processing facilities, wood products plants, dry cleaning establishments, paint and varnish manufacturing plants, paper manufacturing plants, leather manufacturing plants, concrete batching plants, metal coating and treating plants, land clearing operations, construction work, dump operations, agricultural operations and street sweeping shall permit emissions therefrom which cause or contribute to a condition of air pollution. Facility is in compliance with this section, dust and odor emissions from the Project will not cause or contribute to a condition of air pollution. All requirements contained in this regulation have been incorporated into the permit.

F. 310 CMR 7.11: Transportation Media

310 CMR 7.11(4) contains specific requirements for Marine Vessels. No person owning, operating, or having control of a seagoing vessel while it is in the district shall cause, suffer, allow, or permit, aboard

said vessel, tube blowing or soot removal activities that cause or contribute to a condition of air pollution. 310 CMR 7.11 shall apply only in the Merrimack Valley Air Pollution Control District, Metropolitan Boston Air Pollution Control District, and the Southeastern Massachusetts Air Pollution Control District. Facility is in compliance with this section. The Project's marine vessels will not engage in tube blowing or soot removal activities that cause or contribute to a condition of air pollution while operating as an OCS source. All requirements contained in this regulation have been incorporated into the permit.

G. 310 CMR 7.13: Stack Testing

310 CMR 7.13 specifies that 1) Any person owning, leasing, operating or controlling a facility for which the Department has determined that stack testing is necessary to ascertain compliance with the Department's regulations or design approval provisos shall cause such stack testing: (a) to be conducted by a person knowledgeable in stack testing, (b) to be conducted in accordance with procedures contained in a test protocol which has been approved by the Department, (c) to be conducted in the presence of a representative of the Department when such is deemed necessary, and (d) to be summarized and submitted to the Department with analyses and report within such time as agreed to in the approved test protocol. 2) Any person having control of a facility, relative to which the Department determines that stack testing (to ascertain the mass emission rates of air contaminants emitted under various operating conditions) is necessary for the purposes of regulation enforcement or determination of regulation compliance, shall cooperate with the Department to provide: (a) entrance to a location suitable for stack sampling; (b) sampling ports at locations where representative samples may be obtained; (c) staging and ladders to support personnel and equipment for performing the tests; (d) a suitable power source at the sampling location for the operation of sampling equipment; and (e) such other reasonable facilities as may be requested by the Department. EPA requires stack testing (e.g., visible emission test), and facility will need to perform testing in accordance with 310 CMR 7.13. All requirements contained in this regulation have been incorporated into the permit.

H. 310 CMR 7.18: Volatile and Halogenated Organic Compounds

The purpose of 310 CMR 7.18 (30) is to limit VOCs in adhesive, sealant, adhesive primer, or sealant primer. The NEW2 project has potential to use adhesive, sealant, adhesive primer, or sealant primer and thus could become subject to the standards contained in this section. Per 310 CMR 7.18(30)(4), if the total facility-wide VOC emissions from all adhesives, sealants, adhesive primers, and sealant primers used are less than 200 pounds per calendar year, or an equivalent volume, the facility is exempt from the requirement of 310 CMR 7.18(30)(c)3 and 5. Any person claiming this exemption shall maintain sufficient monthly operational records in accordance with 310 CMR 7.18(30)(e) to demonstrate compliance with this exemption. All requirements contained in this regulation have been incorporated into the permit.

I. 310 CMR 7.71: Reporting of Greenhouse Gas Emissions

The Permittee is subject to the requirements of Greenhouse Gas Emissions Reporting as defined by MassDEP in 310 CMR 7.71. The Permittee will be required to report emissions pursuant to 310 CMR 7.00: Appendix C because the Project will have stationary emission sources that collectively emit over

5,000 tpy of CO2e. Therefore, the Permittee shall report and certify GHG emissions annually for the preceding calendar year in accordance with 310 CMR 7.71. All requirements contained in this regulation have been incorporated into the permit.

J. 310 CMR 7.72: Reducing SF_6 Emissions from Gas-Insulated Switchgear

The purpose of 310 CMR 7.72 is to assist the Commonwealth in achieving the greenhouse gas emissions reduction goals by reducing sulfur hexafluoride (SF_6) emissions from GIS through the imposition of declining annual aggregate emission limits and other measures on GIS. All requirements contained in this regulation have been incorporated into the permit.

Per 310 CMR 7.72 (4)(a), Any newly manufactured GIS that is placed under the ownership, lease, operation, or control of any GIS owner on or after January 1, 2015, must be represented by the manufacturer to have a 1.0% maximum annual leak rate.

- The applicant has accepted a best achievable control technology limit of a maximum annual leak rate not to exceed 0.5%, which is more stringent that the requirement contained in 310 CMR 7.72 (4)(a).

Per 310 CMR 7.72 (4)(b), any GIS owner that places GIS under ownership, lease, operation, or control on or after January 1, 2015, shall comply with any manufacturer-recommended maintenance procedures or industry best practices that have the effect of reducing leakage of SF_6.

- The applicant has a BACT limit of a sealed system with leak detection and alarms and a commitment to repair detected leaks within 5 days of discovery, which complies with the requirement contained in 310 CMR 7.72 (4)(a).

The facility may be required to comply with all annual reporting requirements contained in 310 CMR 7.72 (6), including but not limited to, the number of pounds of SF_6 emitted from GIS equipment owned, leased, operated, or controlled by the federal reporting GIS owner and located in Massachusetts during the year, using the equation specified in 40 C.F.R. §98.303 if 40 C.F.R. Part 98 subpart DD applies.

$$\text{User Emissions} = (\text{Decrease in } SF_6 \text{ Inventory}) + (\text{Acquisitions of } SF_6) - (\text{Disbursements of } SF_6) - (\text{Net Increase in Total Nameplate Capacity of Equipment Operated}) \quad \text{(Eq. DD-1)}$$

Figure 2 - Calculate the annual SF_6 emissions using the mass-balance approach.

Where:

Decrease in SF_6 Inventory = (pounds of SF_6 stored in containers, but not in energized equipment, at the beginning of the year) − (pounds of SF_6 stored in containers, but not in energized equipment, at the end of the year).

Acquisitions of SF_6 = (pounds of SF_6 purchased from chemical producers or distributors in bulk) + (pounds of SF_6 purchased from equipment manufacturers or distributors with or inside equipment, including hermetically sealed-pressure switchgear) + (pounds of SF_6 returned to facility after off-site recycling).

Disbursements of SF_6 = (pounds of SF_6 in bulk and contained in equipment that is sold to other entities) + (pounds of SF_6 returned to suppliers) + (pounds of SF_6 sent off site for recycling) + (pounds of SF_6 sent off-site for destruction).

Net Increase in Total Nameplate Capacity of Equipment Operated = (The Nameplate Capacity of new equipment in pounds, including hermetically sealed-pressure switchgear) − (Nameplate Capacity of retiring equipment in pounds, including hermetically sealed-pressure switchgear).

Note that Nameplate Capacity refers to the full and proper charge of equipment rather than to the actual charge, which may reflect leakage.

VII. Federal Requirements

Pursuant to 40 C.F.R. § 55.13(c) and (d), regulations at 40 C.F.R. part 60 (NSPS) and 40 C.F.R. part 61 (NESHAPs), together with any other provisions promulgated pursuant to section 112 of the Act, shall apply to OCS sources. For example, NSPS subpart IIII, Standards for Performance for Stationary Compression Ignition Internal Combustion Engines, and NESHAP subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines, apply to OCS sources even when marine vessel engines and offshore construction equipment are typically not considered stationary sources.

A. New Source Performance Standards (NSPS)

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This subpart establishes technology-based federal emissions limitations and other requirements for stationary CI ICE based on the engine's function (emergency or non-emergency) model year, power (in kW or hp)) and engine displacement (L/cyl). NSPS IIII applies to owners and operators of stationary CI ICE that both commence construction[66] after July 11, 2005, and were manufactured after April 1, 2006, as well as those engines modified or reconstructed after July 11, 2005.

For non-emergency engines with a displacement less than 30 L/cyl, NSPS IIII requires compliance with the emissions standards and other requirements specified in 40 CFR part 1039 ("Control of Emissions from New and In-Use Nonroad Compression Ignition Engines") ("part 1039"), 40 CFR part 1042 ("Control of Emissions from New and In-Use Marine Compression-Ignition Engines and Vessels") ("part 1042), or within NSPS IIII itself.[67] For certain non-emergency engines with a displacement of less than 10 L/cyl, 40 C.F.R. § 60.4201(f) provides that if these non-emergency engines will be used solely at marine offshore installations, they may be certified to the Tier standards in part 1042 for marine

[66] "Commence construction" is the date the engine is ordered by the owner or operator. See 40 C.F.R. § 60.4200(a).
[67] See 40 C.F.R. §§ 60.4201 and 60.4204.

engines, instead of the more stringent emission standards in part 1039.[68] For non-emergency engines with a displacement of ≥ 30 L/cyl, NSPS IIII requires compliance with the emission standards and other requirements within NSPS IIII itself, which are mainly emission standards for NOx and PM. See 40 C.F.R. § 60.4204(c). Other NSPS IIII requirements, besides the emissions standards, that apply to non-emergency engines include, but are not limited to, fuel, monitoring, notification, reporting, recordkeeping, and compliance requirements.

For EUG 1, the permittee will comply with NSPS IIII by procuring certified engines that meet the highest applicable tier emission standards, complying with the applicable work practice standards and burning fuel that meets the sulfur content requirements as applicable in subpart IIII. Since the permittee indicated in the application that all engines associated with EUG 1 will have individual engine displacements less than 30 L/cylinder, the permittee is also proposing to procure new engines that are built to the standards contain in 40 C.F.R. part 1042 (including appendix I) or the non-road engine standards contained in 40 C.F.R. part 1039 (including appendix I) as a means of demonstrating compliance with NSPS IIII[69]. 40 C.F.R. part 1042 contains emission standards and certification requirements for Category 1 and Category 2 marine diesel engines on vessels[70] and 40 C.F.R. part 1039 sets emission standards and certification requirements for nonroad diesel engines. The emission standards are structured as a progression (Tiers 1 through 4), with Tier 4 including the most stringent air emissions standards. For both parts 1042 and 1039, the Tier 4 emission standards are fully in effect at the time of this Statement of Basis. The exact emission limits (in g/kW-hr) that apply to each engine depend on the engine's size, displacement, speed, and/or power density.

For the units within EUG 2 that are subject to NSPS subpart IIII and have a displacement less than 30 L/cylinder, an owner of a stationary source in a marine environment can also certify its engine based on the marine engine requirements at 40 C.F.R. part 1042 (including appendix I) as a means of demonstrating compliance with NSPS IIII[71]. However, EUG 2 engines that have a displacement greater than or equal to 30 L/cylinder, are subject to NOx and PM emissions standards as described in 40 C.F.R. § 60.4204(c) and other requirements in Subpart IIII. The specific NOx emissions standards that apply to each engine are based on the date when the engine was constructed (or reconstructed) and the maximum engine speed (in revolutions per minute or RPM).

B. National Emission Standards for Hazardous Air Pollutants (NESHAPs)

[68] See 40 C.F.R. § 60.4201(f), which states that "Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) of this section may be certified to the provisions of 40 CFR part 1042 for commercial engines that are applicable for the engine's model year, displacement, power density, and maximum engine power if the engines will be used solely in either or both of the following locations: (2) Marine offshore installations". See exceptions at 40 C.F.R. § 60.4201(a) and 40 C.F.R. § 60.4201(c).

[69] *See* 40 C.F.R. § 60.4201(f)(2).

[70] The 40 C.F.R. part 1039 non-road engine regulations set emissions standards and certification requirements for the same pollutants as 40 C.F.R. 1042: NO_X, HC, PM, and CO.

[71] Please note that NSPS IIII allows compliance with 40 C.F.R. 1042 in lieu of compliance with 40 C.F.R. 1039 for most engines with a displacement less than 30l/cyl except for a small subsect of engines for certain model years and sizes. For that small subset of engines, compliance with 40 C.F.R. 1039 is still required. See 40 C.F.R. § 60.4201(c) and 60.4204(b) for more information about those regulatory requirements.

Subpart ZZZZ, Reciprocating Internal Combustion Engines. This subpart establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. NEW2 is considered an area source of HAP.

The Project's CI-ICE that become OCS sources and were built or reconstructed after June 12, 2006, are considered "a new or reconstructed stationary RICE located at an area source." Per 40 C.F.R. § 63.6590(c), an affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 C.F.R. part 60, subpart IIII, for compression ignition engines. Therefore, RICEs that become OCS sources and were built or reconstructed after June 12, 2006, must meet the requirements of NSPS IIII and by complying with the general provisions of 40 C.F.R. part 63, subpart A that are listed in Table 8 of NESHAP subpart ZZZZ.

The Project's existing RICE (constructed or reconstructed before June 12, 2006) that are OCS sources are subject to emission limitations, operating limitations, and other requirements at 40 C.F.R. § 63.6603, which applies to existing stationary RICEs located at an area source of HAP emissions. *See* 40 C.F.R. § 63.6590(a)(1)(iii). However, existing stationary non-emergency compression-ignition RICEs with a rating greater than 300 horsepower located on an offshore vessel that is an OCS source do not have to meet the CO emission limitations specified in Table 2d of subpart ZZZZ; they must meet the management practices at 40 C.F.R. § 63.6603(c).

Table 13 Table 2d to Subpart ZZZZ of Part 63 - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

RICE Category	You must meet the following requirement, except during periods of startup….	During periods of startup, you must….
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first (1)	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O2; or	
	b. Reduce CO emissions by 70 percent or more.	

RICE Category	You must meet the following requirement, except during periods of startup….	During periods of startup, you must….
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.2	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state, or local law under which the risk was determined to be unacceptable.

C. MARPOL Annex VI, the Act to Prevent Pollution from Ships, and 40 C.F.R. Part 1043

Annex VI of the International Maritime Organization's (IMO's) International Convention for the Prevention of Pollution from Ships (MARPOL) treaty is the main international treaty that addresses air pollution from marine vessels. The IMO has also adopted legally binding energy efficiency measures as amendments to MARPOL Annex VI. It was implemented in the United States through the Act to Prevent Pollution from Ships (APPS), 33 U.S.C. §§ 1901–1905. Annex VI requirements comprise both engine-based and fuel-based standards and apply to U.S.-flagged ships wherever located and to non-U.S. flagged ships operating in U.S. waters.

- Annex VI establishes:
    - Limits on NO_X emissions from marine diesel engines with a power output of more than 130 kW. The standards apply to both main propulsion and auxiliary engines and require the engines to be operated in conformance with the Annex VI NO_X emission limits.

- Limits on the sulfur content of marine fuels. 40 C.F.R. part 1090, subpart D contains the standards for Diesel Fuel and ECA Marine Fuel. ECA marine fuels, both ECA marine distillate and ECA marine residual, are limited to a maximum sulfur content of 1000 ppm for all marine vessels operating in the ECA area. However, per 40 C.F.R. § 1090.325, the use of ECA Marine Fuel (1000 ppm sulfur) is limited to use in Category 3 Marine Engines only, which is defined as a marine engine having a displacement greater than 30 L/cylinder. All other engines category's (Category 1, Category 2, and nonroad) will fall into the ULSD (15 ppm) limitation as contained in 40 C.F.R. § 1090.305 and subpart IIII.

- U.S.-flagged vessels are subject to inspection for compliance with Annex VI. Non-U.S. flagged ships are subject to examination under Port State Control while operating in U.S. waters. The USCG or EPA may bring an enforcement action for a violation.

- Ships operating up to 200 nautical miles off U.S. shores must meet the most advanced standards for NO_X emissions and use fuel with lower sulfur content. This geographic area is designated under Annex VI as the ECA.

- Each regulated diesel engine in U.S.-flagged vessels must have an EIAPP certificate, issued by EPA, to document that the engine meets Annex VI NO_X standards. Certain vessels are also required to have an IAPP Certificate which is issued by the USCG. Ship operators must also maintain records on board regarding their compliance with the emission standards, fuels requirements and other provisions of Annex VI.

D. Title V Fees

Per the requirements of 40 CFR 55.10(a), the EPA will calculate and collect operating permit fees from OCS sources in accordance with the requirements of 40 CFR part 71. The owners or operators of part 71 sources shall pay annual fees, or the equivalent over some other period, that are sufficient to cover the permit program costs, in accordance with the procedures in 40 CFR 71.9.

Per the requirements of 40 CFR 71.9(e)(1), each source shall complete and submit an initial fee calculation work sheet as provided in paragraphs (e)(2), (f), and (g) of 40 CFR 71.9 and shall complete and submit fee calculation work sheets thereafter as provided in paragraph (h) of 40 CFR 71.9. Calculations of actual or estimated emissions and calculation of the fees owed by a source shall be computed by the source on fee calculation work sheets provided by EPA. Fee payment of the full amount must accompany each initial fee calculation work sheet. NEW2 has satisfied this as part of the initial title V application.

After the NEW2 title V permit is issued and per the requirements of 40 CFR 71.9(h)(1), NEW2 shall submit an annual report of its actual emissions for the preceding calendar year, a fee calculation work sheet (based on the report), and full payment of the annual fee each year on the anniversary date of its initial fee calculation work sheet, except that if NEW2 were required to submit initial fee calculation work sheets between January 1 and March 31 inclusive, then NEW2 shall submit subsequent annual emissions reports and fee calculation work sheets by April 1.

VIII. Monitoring, Reporting, Recordkeeping and Testing Requirements

The following reports are required by the Specific Conditions of Permit No. OCS-R1-08-TV, including but not limited to:

- Semi-annual monitoring report (also known as 6-month monitoring reports) and annual compliance certification.

- Self-reporting (i.e., prompt reporting) of deviations from permit terms and conditions. The EPA is requiring the prompt reporting of permit deviations in the specific conditions of the draft permit.

- Annual report of actual emissions for the preceding calendar year, a fee calculation work sheet (based on the report), and full payment of the annual fee each year on the anniversary date of its initial fee calculation work sheet.

- Submit to EPA a copy of the U.S. Coast Guard 500-meter safety buffer approval.

- All applicable reporting requirements under NSPS subpart IIII and NESHAP subpart ZZZZ.

Demonstrating compliance with the permit requirements require monitoring and recordkeeping of activities. The monitoring, recordkeeping, and testing requirements can be grouped into several categories. These categories are:

- Tracking actual facility-wide emissions of NO_X and VOC, on a daily rolling, 365-day total upon commencement of the operational phase start date. This includes emissions from all OCS sources including support vessels servicing or associated with the OCS source while at or going to or from the OCS source while within 25 NM of the source's centroid.

- Documenting key design parameters and manufacturers certifications for every internal combustion engine and any other emission unit classified as an OCS source. This information is necessary to demonstrate compliance with the BACT and LAER emission limits. Certifying that at the time a vessel will become an OCS source, the vessel in question has the least polluting internal combustion engines on it available to the permittee or its contractors.

- Demonstrating compliance with the sulfur fuel limits by obtaining the fuel supplier's certificate that contains information regarding the fuel's sulfur content.

- All applicable monitoring and recordkeeping requirements under NSPS subpart IIII and NESHAP subpart ZZZZ.

IX. Consultations

For the purposes of the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), and the National Historic Preservation Act (NHPA), the issuance of an OCS air permit is a federal action undertaken by the EPA. BOEM is the lead federal agency for authorizing renewable energy activities on the OCS and authorizing the NEW2 windfarm is also a federal action for BOEM. BOEM's regulations at 30 C.F.R. part 585 require the NEW2 windfarm to obtain a COP approval before commencing construction. In conjunction with the COP approval, BOEM is also responsible for issuing the Record of Decision (ROD) on the Environmental Impact Statement conducted under the National Environmental Policy Review Act (NEPA).

The applicant requests a lease, easement, right-of-way, and any other related approvals from BOEM necessary to authorize construction, operation, and eventual decommissioning of the proposed action. BOEM's authority to approve, deny, or modify the project derives from the Energy Policy Act of 2005. Section 388 of the Act amended the OCSLA by adding subsection 8(p), which authorizes the Department of the Interior to grant leases, easements, or rights-of-way on OCS lands for activities that produce or support production, transportation, or transmission of energy from sources other than oil and gas, such as wind power.

The EPA assesses its own permitting action (i.e., to issue an OCS air permit for the windfarm) as interrelated to, or interdependent with, the BOEM's COP approval and issuance of the NEPA ROD for the NEW2 windfarm. Accordingly, the EPA has designated BOEM as the lead Federal agency for purposes of fulfilling statutory obligations under the statutes mentioned previously.[72] BOEM has accepted the designation as lead Federal agency.[73]

A. Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, and National Historic Preservation Act

Under Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), the EPA must ensure that any action authorized, funded, or carried out by the EPA is not likely to jeopardize the continued existence of any federally listed endangered species or threatened species or result in the destruction or adverse modification of such species' designated critical habitat. If the EPA's action (i.e., OCS air permit issuance) 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 require 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 MSFCMA, 16 U.S.C. § 1855(b)(2), Federal agencies are also required to consult with the NMFS on any action that may result in adverse effects to essential fish habitat (EFH).

[72] A copy of the July 25, 2018, letter from EPA R1 to the BOEM requesting lead agency designation from BOEM is included in the administrative record for this action.

[73] A copy of the September 24, 2018, letter from the BOEM to EPA R1 accepting lead agency designation is included in the administrative record for this action.

Section 106 of the 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 actions on historic properties and afford the opportunity for the Advisory Council on Historic Preservation (ACHP) and consulting parties to consult on the federal undertaking.

The ESA regulations at 50 C.F.R. § 402.07, the MSFCMA 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. As previously discussed, BOEM is the designated lead agency for the purposes of fulfilling EPA's obligations under Section 7 of the ESA, Section 305(b) of the MSFCMA, and Section 106 of the NHPA for offshore wind development projects on the Atlantic OCS, including the project. As a result of this designation, BOEM will consider the effects of the EPA's OCS permitting action in fulfilling its consultation obligations under each of these statutes for the NEPA ROD and COP approval process.

BOEM has completed its consultation requirements for ESA, MSFCMA, and NHPA for the COP approval and NEPA ROD for the project on July 1, 2024, and April 1, 2024, respectively.

B. Coastal Zone Management Act (CZMA)

Section 307 of the CZMA, 16 U.S.C. § 1456, and the implementing regulations at 15 C.F.R. part 930 provide a federal consistency process for state programs to use to manage coastal activities and resources and to facilitate cooperation and coordination with federal agencies. Federal consistency requires that federal actions, within and outside the coastal zone, which have foreseeable effects on any coastal use (land or water), or natural resource of the coastal zone be consistent with the enforceable policies of a state's federally approved coastal management program. Federal actions include federal agency activities, federal license or permit activities, and federal financial assistance activities. Federal agency activities must be consistent to the maximum extent practicable with the enforceable policies of a state coastal management program, and license and permit and financial assistance activities must be fully consistent.

Under 15 C.F.R. part 930, subpart D, a non-federal applicant for a federal license or permit is required to provide a state with a consistency certification if the state has identified the federal license or permit on a list of activities subject to federal consistency review in its federally approved coastal management program. State federal consistency lists identify the federal agency, federal license or permit, and federal financial assistance activities that are subject to federal consistency review if the activities occur and have effects on a state's coastal zone pursuant to the applicable subparts of the regulations at 15 C.F.R. part 930. The EPA has reviewed the listed federal actions for federal license or permit activities for Massachusetts and Rhode Island. The EPA's action to issue an OCS air permit under the regulations at 40 C.F.R. part 55 is not included on the current list of federal actions for federal consistency review. Thus, issuance of this OCS air permit is not required to be preceded by a federal consistency review.[74]

[74] The EPA confirmed with the State of Rhode Island and the Commonwealth of Massachusetts that the states do not seek a consistency review for OCS air permits. A copy of the email confirmation from Rhode Island and Massachusetts is included in the administrative record for this action.

C. Clean Air Act General Conformity

Pursuant to 40 C.F.R. § 93.153(d)(1), a conformity determination is not required for the portion of an action that includes major or minor new or modified stationary sources that require a permit under the NSR program.

X. Environmental Justice

The issuance of the initial title V permit will not result in an increase in emissions but instead maintain the emission limits already established in the initial NSR permit that was issued[75]. EPA's prior analysis associated with the April 15, 2024, final permit for NEW2 provides a detailed discussion of EPA's analysis on impacts from the project on communities with environmental justice concerns. This includes discussion about direct impacts from the permitted source, as well as indirect impacts from sources of emissions associated with the project, but outside the scope of the permitting action. In this analysis, EPA concluded that issuance of the NSR permit will not have disproportionately high and adverse impacts on minority or low-income populations. Therefore, EPA concludes that the issuance of this Title V operating permit will not have disproportionately high and adverse impacts on minority or low-income populations.

A. Tribal Consultation

Per the EPA Policy on Consultation and Coordination with Indian Tribes, the EPA Region 1 offers tribal government leaders an opportunity to consult on all OCS air permit actions. On March 2, 2023, the EPA notified federally-recognized tribes in Massachusetts, Rhode Island, and Connecticut of the opportunity to conduct government-to-government consultation with EPA prior to issuing the OCS air permit.[76] To date the EPA has not received a request from any tribe requesting consultation on this permit action. However, tribes may request consultation at any time.

B. Public Participation

Section 5-5(c) (Public Participation and Access to Information) of EO 12898 requires that each federal agency work to ensure that public documents, notices, and hearings relating to human health, or the environment are concise, understandable, and readily accessible to the public to provide opportunity for meaningful involvement for all communities, including potentially impacted environmental justice communities. The EPA is taking or will take the following actions to provide public participation and access to information in accordance with EO 12898:

- Prepared a Public Notice, along with this Statement of Basis, which are available on the EPA website https://www.epa.gov/caa-permitting/caa-public-comment-opportunities-region-1.

[75] See Section X of Permit No. OCS-R1-08, issued on April 15, 2024, which contains the ambient air impact analysis for the project.

[76] Letters offering government-to-government consultation to each of the affected federally recognized tribes are included in the administrative record for this air permit action.

- Will hold a virtual public hearing for this permit action during the public comment period. Please refer to the public notice on EPA's website or published in the Boston Globe and Providence Journal for details on how to register.
- Providing Email notification of future Region 1 CAA permit public comment opportunities. Interested parties can sign up at: https://www.epa.gov/caa-permitting/caa-permitting-epas-new-england-region.

XI. Comment Period, Hearings and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, in writing. EPA prefers that all comments be submitted by electronic means to:

Pujarini Maiti
Email: maiti.pujarini@epa.gov

Comments may also be submitted electronically through https://www.regulations.gov (Docket ID # **EPA-R01-OAR-2024-0466).**

If electronic submittal of comments is not feasible, hard copy comments may be submitted via mail to the address below:

U.S. EPA Region 1
Air and Radiation Division
Air Permits, Toxics, and Indoor Programs Branch
Attn. Pujarini Maiti
Mailing Address: 5 Post Office Square, Suite 100, 5-MD, Boston, Massachusetts 02109

A public hearing will be held during the public comment period. Please refer to the public notice for details on how to register. The EPA will consider requests for extending the public comment period for good cause. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available upon request.

Following the public hearing and the close of the public comment period, the EPA will issue a Final Permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Permit decisions may be appealed under the permit appeal procedures of 40 C.F.R. § 124.19. *See* 40 CFR § 71.11(l).

XII. EPA Contacts

Additional information concerning the OCS permit may be obtained from:

Pujarini Maiti
Telephone: (617) 918-1625

Email: maiti.pujarini@epa.gov

All supporting information regarding this permitting action can also be found on EPA's website at https://www.epa.gov/caa-permitting/epa-issued-caa-permits-region-1, or at www.regulations.gov Docket ID # **EPA-R01-OAR-2024-0466).**