U.S. Environmental Protection Agency
Region 2

RESPONSE TO PUBLIC COMMENTS

On the

OUTER CONTINENTAL SHELF DRAFT AIR PERMIT

EPA Permit Number: OCS-EPA-R2 NY 01

For the

Empire Offshore Wind: Empire Wind Project
Empire Offshore Wind, LLC

February 15, 2024

I. INTRODUCTION

On December 1, 2023, the United States Environmental Protection Agency, Region 2 Office ("EPA") issued for public review a draft Clean Air Act Outer Continental Shelf ("OCS") air permit for Empire Offshore Wind, LLC ("Empire Wind") to construct and operate the Empire Wind Project ("Empire Wind Project" or "Project"), a wind farm. The Project will be comprised of up to 147 wind turbine generators, two offshore substations, and inter-array cables located on the OCS in the Renewable Energy Lease Area OCS-A 0512, a lease awarded by the Bureau of Ocean Energy Management, approximately 12 nautical miles (or about 14 statute miles) south of Long Island New York and 17 nautical miles (or about 19.5 statute miles) east of Long Branch, New Jersey. The public notice, fact sheet and draft OCS air permit ("draft permit") were made available on the EPA website at https://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-2, while the entire Administrative Record for the draft permit was made available at https://www.regulations.gov/docket/EPA-R02-OAR-2023-0522.

EPA provided the public with the opportunity to comment on the draft permit from December 1, 2023, to January 5, 2024. In addition to accepting written comments during that time, the EPA held a virtual public hearing on January 3, 2024. Attendees raised no verbal or written comments during the public hearing. The only comments received during the public comment period were written comments from Empire Wind itself.

After a careful review of the Empire Wind comments, the EPA is issuing the final OCS air permit ("final permit") for the Empire Wind Project. As required by 40 C.F.R. part 124 ("Procedures for Decision Making"), the EPA has prepared this document, known as the "Response to Comments" ("RTC"), that addresses all comments received during the public comment period.

The Empire Wind comments addressed only very specific permit conditions and did not raise any substantial questions, and thus resulted only in minor revisions and/or updates that the EPA made to a limited number of the draft permit conditions to improve the clarity and effectiveness of the permit. In addition to the permit conditions updated due to the comments received, EPA made one administrative correction to one permit condition, which is meant to clarify that condition and make it consistent with the Fact Sheet and application. As a result, the final permit is substantially the same as the draft permit that was available for public comment. Since the Empire Wind comments are not extensive, this RTC quotes the complete text of each comment, as submitted. After each comment, the EPA provides a response to that comment, and shows how the relevant permit condition(s) were updated. Please note that for the reader's convenience, additions made to the draft OCS air permit conditions are included in *italics and underlined*, while deletions of text in the draft OCS air permit conditions are indicated using ~~strikethrough~~.

The Final OCS Air Permit and the Response to Comments are available on the EPA website at https://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-2#outercontinental. A copy of the Empire Wind comments is available at https://www.regulations.gov/docket/EPA-R02-OAR-2023-0522.

Additionally, the EPA is providing notice of the final permit decision to the one commenter and to those individuals who attended the public hearing and provided adequate contact information.

II. RESPONSE TO COMMENTS

Empire Wind Comment 1: "Condition IV.A.5., page 24, includes the following description in the section heading: 'Marine Engines of Harbor Craft Vessels: Marine Vessels Engines of Crew Transfer Vessels (used during C&C), Service Operations Vessel (used during C&C), Jack-up Vessel for OSS Hookup & Commissioning (used during C&C), and Tugs 1 and 2 (used during O&M)'. At the time the OCS air permit application was submitted, Empire had planned to use a jack-up vessel for the OSS hookup and commissioning task. However, Empire no longer plans to use a vessel for this activity, and therefore the phrase 'Jack-up Vessel for OSS Hookup & Commissioning (used during C&C)' can be removed from the section heading for this condition."

Response to Comment 1: EPA agrees with this comment and has updated Condition IV.A.5. of the draft permit as follows:

> "Marine Engines of Harbor Craft Vessels: Marine Vessels Engines of Crew Transfer Vessels (used during C&C), Service Operations Vessel (used during C&C)~~, Jack-up Vessel for OSS Hookup & Commissioning (used during C&C)~~, and Tugs 1 and 2 (used during O&M)."

Empire Wind Comment 2: "Condition IV.D.2.d., page 36, states 'Upon a detectable pressure drop that is 10 percent of the original pressure (accounting for ambient air conditions), perform maintenance on an SF6-insulated electrical switchgear to fix seals as soon as possible but no later than 14 days after the detection of the pressure drop.'

The proposed 10 percent pressure drop threshold is appropriate for Empire Wind's 230 kV and 66 kV gas-insulated switchgear (GIS). However, for the 13.8 kV GIS, the equipment datasheet indicates a rated pressure of 1.4 bar (absolute pressure), with an alarm triggered at 1.2 bar (absolute pressure). This means that the 13.8 kV GIS is designed to trigger an alarm for a pressure drop of 14 percent on an absolute pressure basis, or 50 percent on a relative (gauge) pressure basis. This datasheet was not provided at the time of the application. Empire Wind

requests that this condition be revised to accept the vendor standard design for the 13.8 kV GIS."

Response to Comment 2: EPA determined that the justification provided by Empire Wind supports the requested updates to the above-mentioned draft permit condition. EPA has updated Condition IV.D.2.d. of the draft permit as follows to reflect the pressure drop indicated in the equipment datasheet for the 13.8 kW switchgears:

> "Upon a detectable pressure drop that is 10 percent of the original pressure (accounting for ambient air conditions) *for any switch other than a 13.8 kV switch or for the gas-insulated bus duct, and a detectable pressure drop that is 14 percent of the original pressure (accounting for ambient air conditions) for a 13.8 kV switch,* perform maintenance on an SF_6-insulated electrical switchgear to fix seals as soon as possible but no later than 14 days after the detection of the pressure drop."

Empire Wind Comment 3: "Condition IV.D.2.e., page 36, states, 'If an event requires removal of SF6, the affected major components will be replaced with new components.'

Empire requests that this condition clarify 'an event' to mean an event in which a component of the switchgear is damaged and results in the leakage of SF6."

Response to Comment 3: EPA agrees with this comment as it will improve the clarity of the permit. EPA has updated Condition IV.D.2.e. of the draft permit as follows:

> "If an event requires removal of SF_6, the affected major components will be replaced with new components. *For purposes of this requirement, an event means when any component of a switchgear is damaged and results in SF_6 leakage.*"

Empire Wind Comment 4: "Condition V.2.a., page 45 states, 'For emission points where visible emissions are observed, the Permittee shall initiate corrective action within no more than eight hours of the initial observation.' Empire requests that this be condition be revised such that corrective action is only required if a Method 22 observation provides 'credible evidence,' per 6 NYCRR 227-1.4(b)(3), that the 20 percent opacity standard in 6 NYCRR 227-1.4(a) is actually at risk of being exceeded. As currently written, this condition would require corrective action for even a slight trace of visible emissions. A well-tuned engine can still potentially produce a slight trace of visible emissions at times, and there is no available corrective action for this. We propose revising this condition as follows:

'For emission points where a Method 22 observation provides credible evidence that visible emissions could potentially exceed the 20 percent opacity standard, the Permittee shall initiate corrective action within no more than eight hours of the initial observation.'"

Response to Comment 4: EPA finds that the rationale provided by Empire Wind supports updating the permit conditions as proposed by Empire Wind. We updated the permit condition to address the comment. Condition V.2.a. of the draft permit has been updated as follows:

> "For emission points where *a Method 22 observation provides credible evidence that* visible emissions *could potentially exceed the opacity limit of 20 percent,* ~~are observed~~ the Permittee shall initiate corrective action within no more than eight hours of the initial observation."

Empire Wind Comment 5: "Condition V.2.b., page 46 states, 'If, after taking the corrective action, the visible emissions persist, the Permittee shall perform an EPA test Method 9 visual determination of opacity in accordance with 40 C.F.R. § 60, Appendix F, within 24 hours of the initial observation.'

Due to the logistics of operating in an offshore environment, Empire requests that this condition consider adding that the visual determinations will take place as close to 24 hours 'as reasonably practicable based on safe logistical planning and availability of a trained Method 9 observer.'

Response to Comment 5: EPA agrees that the justification provided by Empire Wind supports the updates requested for Condition V.2.b. Thus, the condition has been revised as follows:

> "If, after taking the corrective action, the visible emissions persist, the Permittee shall perform an EPA test Method 9 visual determination of opacity in accordance with 40 C.F.R. § 60, Appendix F, *as close to* ~~within~~ 24 hours of the initial observation *as reasonably practicable based on safe logistical planning and availability of a trained Method 9 observer*."

Empire Wind Comment 6: "Conditions VI.7, VI.8.c., and VII.3.a.2.ii, on pages 48-49, 49, and 50 respectively, include the term 'within 30 days.' Empire requests that these conditions be clarified to indicate whether they mean 'within 30 days before' using the engine, or 'within 30 days after' using the engine."

Response to Comment 6: EPA agrees with Empire Wind that clarification of this language for the above-listed permit conditions is beneficial, and has updated them as follows:

Condition IV.7.a:

> "The Permittee shall notify EPA immediately and shall submit to EPA an OCS air permit application modification together with a demonstration supporting that the non-marine engine (1) meets the Tier 4 emission standards in 40 C.F.R. §1039.101(b), Table 1; and (2) is not subject to other regulatory requirements incorporated by reference into 40 C.F.R. part 55 at the time, within 30 days *after* ~~of when~~ the Permittee starts using that CI

ICE non-marine engine; and"

Condition VI.8.c:

"The Permittee shall submit to EPA a demonstration supporting that the CI ICE non-marine engine (1) is certified by EPA to the Tier 4 emission standards in 40 C.F.R. §1039.101(b), Table 1; and (2) meets all of the air requirements in this permit for the engine is replacing, within 30 days *after* ~~of when~~ the Permittee starts using the replacement CI ICE non-marine engine; and"

Condition VII.3.a.2.ii:

"The Permittee shall submit a demonstration supporting that the RICE meets the NESHAP ZZZZ requirements and any other requirements in the permit for the RICE it is replacing within 30 days *after* ~~of when~~ the Permittee starts using the replacement RICE; and"

Empire Wind Comment 7: "Condition IX.B., page 53, includes the following description in the section heading: 'Marine Engines of Main Installation Vessel for WTGs Monopiles and Transition Pieces (MAERSK) (used during C&C) and of Heavy Lift Vessel (used during O&M).'

The Main Installation Vessel for the WTGs will install the turbine blades, nacelles, and towers, but will not install the monopiles or the transition pieces. Empire requests that the phrase 'Monopiles and Transition Pieces (MAERSK)' be removed from the heading to avoid confusion."

Response to Comment 7: EPA agrees that the description of the vessel should be corrected. The title of Condition IX.B has been updated as follows:

"Marine Engines of Main Installation Vessel for WTGs *Towers, Nacelles, and Blades* ~~Monopiles and Transition Pieces~~ (MAERSK) (used during C&C) and of Heavy Lift Vessel (used during O&M)"

Empire Wind Comment 8: "Condition XIII.15.a., page 65, states 'For emissions of any regulated air pollutant that continues for more than two hours in excess of permit requirements, the report must be made within 48 hours.'

48 hours may not always be a feasible timeframe for providing initial notice to EPA, especially if a reportable event occurs outside normal business hours or on a weekend. Empire requests that an allowance of at least three calendar days after discovery should be allowed for submitting an initial notification to EPA."

Response to Comment 8: EPA agrees that the justification provided by Empire Wind supports the requested updates to the above-mentioned draft permit condition. Condition XIII.15.a has been updated as follows:

> "For emissions of any regulated air pollutant that continue for more than two hours in excess of permit requirements, *a brief initial notification* ~~the report~~ must be made *via phone* within ~~48 hours~~ *three calendar days in the manner specified at Section XIII.15.d. below*."

Empire Wind Comment 9: "Condition XIII.15.a, and d. page 65, Empire requests that these conditions be revised to clarify that paragraph a. refers to a brief initial notification, and that paragraph d. refers to a more detailed follow-up report."

Response to Comment 9: EPA agrees that the justification provided by Empire Wind supports the updates requested to the above-mentioned draft permit condition. Condition XIII.15.a has been updated as shown above at Response to Comment 8. Condition XIII.15.d. was updated as follows:

> "If the above paragraph (a) is met, the source must notify the EPA by telephone during normal business hours at 212-637-5031 according to the timetable listed in paragraph (a) of this section. For deviations and incidences that must be reported outside of normal business hours, on weekends, or holidays, the EPA Spill Hotline phone number at 877-251-4575 shall be used. *In addition to the notification via phone,* ~~A~~*a* written notice, certified by a responsible official consistent with 6 NYCRR 201-6.2(d)(12), must be submitted within 10 working days of an occurrence for deviations reported under (a). All deviations reported under paragraph (a) of this section must also be identified in the 6-month monitoring report required above."

III. EPA - Administrative Correction

Condition VIII.2.a inadvertently mentioned only Category 3 marine engines of marine vessels that are fueled at overseas terminals, instead of all of the Category 3 marine engines of vessels that the Empire Wind Project will use. As stated in the Fact Sheet[1], and consistent with the application, the maximum per-gallon sulfur content of 1,000 ppm was intended to apply to diesel fuel used in all Category 3 marine engines of the Project's marine vessels. Condition VIII.2.a was thus updated as follows:

[1] *See* Fact Sheet, on page 44: "BACT for SO_2 was determined to be the level of control provided by the use of . . . (2) LSMGO fuel oil (or marine diesel fuel oil) with no more than 0.1% (or 1,000 ppm) sulfur content by weight for all category 3 marine engines of ocean-going vessels. Empire Wind anticipates that only those category 3 marine engines of ocean-going vessels that will be fueled at overseas terminals will use fuel oil with 0.1% sulfur content. However, for purposes of establishing BACT for SO_2, since at this time it is not clear which category 3 marine engines will be fueled at overseas terminals, Empire Wind has conservatively assumed that all category 3 marine engines will use fuel oil with 0.1% sulfur content."

The Permittee shall ensure that the diesel fuel used in the Category 3 marine engines of *all* marine vessels *(listed in Tables 1A and 1B)* ~~that are fueled at overseas terminals~~ meets a maximum per-gallon sulfur content of 1,000 ppm. [40 C.F.R. § 60.4207(d), 40 C.F.R. § 1090.325(b), 40 C.F.R. § 63.6604]