



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NY 10007-1866

January 17, 2023

Ms. Brandi Sangunett
Office of Renewable Energy Program
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

RE: Empire Wind Offshore Wind Farm (Lease Area OCS-A 0512) Draft Environmental Impact Statement

Dear Ms. Sangunett:

The U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Ocean Energy Management's (BOEM) Draft Environmental Impact Statement (DEIS) for the Empire Wind Offshore Wind Farm (the Project) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. EPA serves as a cooperating agency for the Project and in that capacity actively coordinated with BOEM throughout the entire NEPA process. Our input to BOEM included comments on the Administrative Draft of the EIS (September 9, 2022), scoping comments (July 26, 2021) and input on the purpose and need and alternatives considered for the Project.

Empire Offshore Wind, LLC (Empire) proposes both a 816-megawatt (MW) Empire Wind 1 (EW 1) Project and 1,260-MW Empire Wind 2 (EW 2) Project wind energy facility situated in federal waters sited 14 miles (12 nautical miles [nm]) south of Long Island, New York and 19.5 miles (16.9 nm) east of Long Branch, New Jersey. The Project would consist of up to 147 wind turbine generators, inter-array cables, up to three offshore substations, two onshore substations and two transmission cable routes making landfall at the South Brooklyn Marine Terminal (SBMT) and Long Beach, New York. The DEIS evaluates the No Build Alternative in addition to eight alternative configurations including options intended to avoid potential impacts to sensitive ecosystems.

The construction and operation of the Project could result in a wide range of impacts to resources that are within EPA's areas of jurisdiction and expertise. EPA offers the attached detailed technical comments on the DEIS for your consideration. The enclosed comments are intended to be consistent with our ongoing work in the Region to support local communities and reduce environmental impacts.

Thank you for the opportunity to provide comments on this DEIS. EPA looks forward to the receipt and review of the Final EIS, and we are committed to continuing to work with BOEM throughout the NEPA process and in the future, especially as full projects come to fruition. Should you have

questions on our comments noted above or related to this project, please contact Samantha Nyer at 212-637-3666 or nyer.samantha@epa.gov; or, Anne Rosenblatt Schaffer at 212-637-4347 or schaffer.anne@epa.gov.

Sincerely,

Mark Austin

Mark Austin, Team Lead
Environmental Review Team

EPA Detailed Comments on the DEIS
Empire Wind Offshore Wind Farm
Attachment to the EPA Comment Letter
January 17, 2023

General Comments

- EPA recommends that Table 2-3 include an indication of if mitigation is required or included for each of the resource categories.

- EPA urges BOEM to consider including decommissioning in the discussion of project impacts. It is indicated that funding is required to be secured for decommissioning and similarly it should be assumed that construction of the offshore wind development will result eventually in decommissioning and associated impacts. Given that the Project is anticipated to have an operational life of 35 years, decommissioning of the facilities should be considered in the DEIS as it is reasonably foreseeable.

Alternatives

- “The alternatives listed in Table 2-1 are not mutually exclusive. BOEM may “mix and match” multiple listed Draft EIS alternatives to result in a preferred alternative that will be identified in the Final EIS provided that: (1) the design parameters are compatible; and (2) and the preferred alternative still meets the purpose and need (pg. 2-1).” This methodology is ambiguous and does not provide transparency to reviewers of what the preferred alternative that the lead agency and project sponsors are recommending. For the public to provide meaningful comments, the comparison of alternatives should be complete, comprehensive and provide clear differences in the alternatives.

- The DEIS characterizes most alternatives as causing similar impacts (see Table S-2) despite there being measurable differences in some of the alternatives (for example, Alternatives B and E which attempt to minimize impacts to access to fishing). EPA believes that this may be an artifact of the broad and generalized metrics used to classify impacts. The DEIS should indicate how substantial a reduction in impacts would be necessary to result in any discernible difference in the impact determination given these broad evaluation metrics. Additionally, the DEIS would benefit from a clearer quantitative comparison of impacts across alternatives (when applicable) that would justify the selection of the proposed alternative.

- Alternative F does not have a complete description and does not include a site plan for EW2. Additional information regarding the nature of the geotechnical considerations discussed should be included in the alternative’s description. EPA urges BOEM to more fully describe this alternative in order to allow for meaningful analysis.

- BOEM published a [Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act](#) (June 22, 2022). This document established standard screening criteria for alternatives to be analyzed in EISs. It is not clear how Alternative F was propagated as the limited information provided is not sufficient to determine whether the alternative is technically feasible (refer to Screening Criteria number 7).

Air Quality

- Pursuant to Section 328 of the Clean Air Act (CAA), EPA is required to establish federal air permitting rules to control air pollution from the outer continental shelf (OCS) in order to attain and maintain ambient air quality standards and comply with the provisions of part C of Title I of the CAA. EPA promulgated permitting rules at 40 CFR part 55, which establish air pollution control requirements for OCS sources consistent with section 328(a)(I) of the CAA. OCS projects located within 25 nautical miles of a state seaward boundary are required to comply with the air quality requirements of the corresponding onshore area (COA), which are incorporated by reference into 40 CFR 55, including applicable permitting requirements. OCS projects located beyond 25 nautical miles from the state seaward boundary are subject to federal air quality requirements, including the Prevention of Significant Deterioration (PSD) preconstruction permit program (see 40 CFR 52.21), and/or Title V operating permit program requirements (see 40 CFR 71), and any applicable New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS). Permits issued pursuant to 40 CFR Part 55 regulate air emissions related to construction and operation activities associated with OCS sources, including certain vessels that are OCS sources or are servicing or associated with the OCS sources.
- EPA is aware that an air quality analysis is being conducted as part of the CAA permit and that the results from this analysis after review will be included in the EIS. Please include results comparing the proposed actions' impacts to the National Ambient Air Quality Standards (NAAQS) and PSD increment on Class I and Class II areas and the Air Quality Related Values (AQRV) impacts. Additionally, any language regarding the impacts of the proposed action should be modified accordingly in the Final EIS.
- Further, EPA recommends the air quality analysis include information comparing the modelled concentrations to the NAAQS, state air quality standards, or other relevant reference measures, which would allow for a more quantitative assessment to determine if emissions would adversely impact the air quality resource. Absent such a comparison, it is unclear how a determination of minor adverse impacts can be made.
- In addition, EPA recommends that BOEM conduct an analysis to determine whether emissions not covered by the OCS permit, particularly those emissions originating within the nonattainment area boundaries, will cause or contribute to a new violation of the NAAQS, increase the frequency or severity of any existing violation of the standards, or delay timely attainment of the standards. Alternatively, BOEM could ensure no adverse impact on the NAAQS from these emissions by demonstrating that they are contemporaneously offset.
- Qualitative statements such as "impacts due to construction are expected to be small" may be misleading. Even with the required permits impacts may not be small, these statements should be modified to better reflect the situation.
- The discussion of air quality impacts of the connected action (Appendix G - 3.4.5.1) states that air quality dispersion modeling for the SBMT would be compliant with NAAQS and New York State Ambient Air Quality Standards (AAQS). However, although NAAQS are

complied with there could be local impacts of emissions related to construction and operation. A discussion of the potential for these local impacts and possible mitigation methods should be included in the DEIS.

- Additionally, EPA recommends that air quality impacts associated with construction and utilization of the connected action be quantitatively assessed in the EIS. Although air quality dispersion modeling is referenced, the results and comparison with NAAQS and New York State AAQS should be incorporated as a table in Section 3.4.5.1.
- Please clarify whether the air quality geographic analysis area encompasses the 40 km from the *center* of the Wind Farm Area, or whether it is from the most inland point of the Wind Farm Area.
- According to the EIS, the nearest Class I area is the Brigantine Wilderness Area, located 108 km southwest of the Projects. EPA encourages BOEM to consider the application of long-range transport air quality models to evaluate impacts for transport distances in the 100-200 km range. Please refer to [the Memorandum on the Clarification of Prevention of Significant Deterioration \(PSD\) Guidance for Modeling Class I Area Impacts](#) (October 19, 1992). In particular, this guidance indicates that impacts from large sources located at distances greater than 100 km need to be considered when such impacts reasonably could affect the outcome of the Class I analysis.
- EPA appreciates the incorporation of information on state policies and plans to develop renewable energy resources. EPA further recommends BOEM consider how energy generation may shift after the production tax credit phases out.
- EPA recommends the No Action Alternative avoid the assumption that another action will substitute energy resources should the federal action not take place. Projected emissions should be considered relative to this revised baseline. Furthermore, the assumption that electricity would likely be provided by fossil fuel-fired facilities in absence of offshore wind projects is questionable given that renewable resources constitute a significant portion (39%) of the current energy mix (refer to footnote 3 on page 3.4-6).
- Please clarify why Ocean Winds East and the Vineyard Mid-Atlantic LLC project are the only planned offshore wind activities considered in the Cumulative Impacts analysis. There are several other offshore wind activities planned nearby that should be considered.
- EPA requests clarification on the definition of impact levels related to the Minor/Moderate impact level classification with respect to air quality impacts. Please specify whether there are substantive differences between minor and moderate impact levels. Additionally, please clarify what level constitutes “detectable” emissions.
- The EIS states that “air quality impacts due to offshore wind projects within the air quality geographic analysis area are anticipated to be small relative to those of combined impacts of larger emission sources in the region, such as fossil-fueled power plants.” Such claims

should be substantiated by a detailed comparison between project lifetime emissions and emissions from fossil-fueled power plants.

Greenhouse Gas (GHG) Emissions

- Executive Order 13990 (E.O. 13990, 86 FR 7037; January 20, 2021) urges agencies to “consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including as appropriate and relevant, the 2016 GHG Guidance”.
- Additionally, as the DEIS states that minor air quality benefits are projected, EPA recommends that BOEM expand upon this discussion to explain how the net greenhouse gas reductions would help meet relevant national and local climate action goals and commitments. As there will still be greenhouse gas emissions produced during construction and operations and maintenance, a chart comparing the magnitudes of the produced emissions and avoided emissions would also be helpful in assessing Project impacts and benefits.
- It should be made clear whether the connected action is included in emissions estimates, or a discussion of these estimates should be included alongside estimates of the rest of the project.
- EPA acknowledges the substantial additions to the DEIS, including the incorporation of information on the social cost of GHGs. In addition to this information, EPA recommends that BOEM include additional estimates on upstream emissions to fully disclose the direct and indirect emissions associated with the Project. Emissions associated with production and processing (particularly manufacturing materials that constitute the foundation and wind turbine tower) are a reasonably foreseeable effect of the Project that should be evaluated.
- EPA recommends that the Final EIS be revised to include estimates of greenhouse gases including carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and sulfur hexafluoride (SF₆) in tables 3.4-2 and 3.4-3. Providing estimates of these emissions separately and individually discloses the different environmental impacts associated with emissions for each of the GHGs.

Climate Change

- EPA recognizes the long-term potential benefits of the proposed large-scale offshore wind renewable energy project with respect to greenhouse gas reductions and climate change and acknowledges the importance of the Project for meeting New Jersey’s renewable energy goals under Executive Orders 8 and 92. Furthermore, such projects are consistent with the goals outlined in Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*.
- Additionally, EPA believes that the document would benefit from a more robust consideration of climate change risks to the proposed action in the description of the affected environment. This should include consideration of climate resiliency measures, particularly for infrastructure that may be vulnerable to the impacts associated with climate change (such as sea level rise, more frequent storms, etc.).

Water and Natural Resources

- As currently depicted, the scale on the middle panel of figure 3.21-1 is unclear. Please revise this so that it is more apparent against the background on the figure.
- The DEIS would benefit from a figure that depicts the primary waterbodies as they are not shown to high resolution in figure 3.21-1.
- As mentioned in the DEIS, the proposed EW 1 and EW 2 export cable landfalls, onshore export and interconnection cable routes, onshore substations, and Operations and Maintenance (O&M) facility overlay a sole source aquifer. Potential impacts to the quality of the sole source aquifer, including activities that would affect recharge to the aquifer and groundwater quality should be disclosed and addressed in the Final EIS. The Final EIS should state the project sponsors intent to follow appropriate State and Federal regulations with regard to storage, transport and disposal of hazardous waste and materials.
- While the Water Quality section discusses the waterbodies within the geographic area and current impairments, we recommend the Final EIS attempt to quantify the extent that the Project would contribute to existing impairments or cause new impairments to waterbodies. The DEIS states “impacts from suspended contaminated sediments would result in detectable, localized, short-term degradation of water quality in exceedance of water quality standards in a few locations along the EW 1 offshore export cable corridor”. These locations and the magnitude of expected exceedances should be specified.
- EPA recommends that BOEM continue to coordinate with the relevant resource agencies to ensure that water resources are protected from impacts associated with activities under the proposed action. As there are waterbodies within the geographic analysis are included on the state’s 303(d) lists, there is an increased focus on ongoing efforts to improve water quality. We recommend the Final EIS include up-to-date information on the status of permit application processes.
- We recommend the conclusions section be modified to include a table that clearly compares water quality impacts across each of the presented alternatives. As currently written in text form, it is challenging to derive meaningful comparisons that may reveal an alternative with the least environmental impacts.

Wetlands Impacts

- EPA understands that Empire will be conducting wetland delineation to confirm the extent and presence of regulated wetlands to further inform a wetlands impact analysis. We look forward to reviewing this information, along with any proposed mitigation/restoration measures once it becomes made available.
- The Final EIS should discuss any concern of the capacity of the region for compensatory mitigation of cumulative wetland impacts of ongoing and planned offshore wind development.

- The DEIS states that onshore export and interconnection cables and their duct banks would be retired in place during decommissioning (p.2-17). Possible long-term and permanent impacts of this should be discussed in the Final EIS.

Scenic and Visual Resources/Cultural Resources

- The DEIS states that “the primary sources of ongoing offshore impacts (to cultural resources) include dredging, cable emplacement, and activities that disturb the seafloor (pg. 240)”. Later the DEIS states that there are no ongoing offshore wind activities within the geographic area. The Final EIS should clarify what activities dredging and cable emplacement would be associated with if there are no ongoing offshore wind activities analyzed as part of the No Action Alternative.
- The DEIS mentions a Memorandum of Agreement (attached as Appendix N) to establish commitments for avoiding, minimizing, and mitigating impacts on cultural resources. The Final EIS should further explain who the Memorandum of Agreement would be with, the status of the document and if any outside stakeholders were consulted in the drafting of the agreement.
- A discussion of potential impacts of helicopter use on Scenic and Visual Resources should be included in the DEIS.

Land Use

- EPA recommends the DEIS incorporate a table that indicates different land use types and impacts to the various land use types associated with each alternative. The table should quantify changes in land use and acreage impacted.
- The DEIS discusses the potential benefits of port utilization at SBMT and Port of Albany “on land use and coastal infrastructure due to increased port utilization and resulting economic activity (Section 3.14 pg. 356).” This section should also mention the potential adverse impacts to the neighboring communities and due to changes in land uses.
- The DEIS should make clear how port construction and improvements, other than the SBMT, will be evaluated for environmental processes outside of the scope of this review. If known those review processes should be mentioned.
- On page 3.14-6, the DEIS states that “Construction and installation of new aboveground infrastructure such as onshore substations and O&M facilities could result in the long-term conversion of land from existing conditions to use for electric power generation and transmission.” The conclusion is then made that “Impacts on land use and coastal infrastructure from land disturbance would be localized and short term.” Please discuss or correct this discrepancy.

Benthic

- EPA appreciates commitments made by BOEM such as development of an anchoring plan, a benthic monitoring plan and the applicant-proposed measures to avoid siting structures on sensitive habitat and establishing seasonal work windows to avoid sensitive life stages.

- The DEIS finds that all alternatives including the proposed action as well as the cumulative impacts of the proposed action in combination with the connected action and other ongoing and planned activities would have negligible to moderate and moderate beneficial impacts. This lack of differentiation between alternatives and cumulative impacts may be a result of the generalized impact categories provided for analysis. EPA recommends that BOEM include further discussion of a comparison between alternatives that would help to display design differences in the alternatives.

Indian Nation Issues and Coordination

Executive Order 13175 Consultation and Coordination with Indian Tribal Governments (E.O. 13175, 65 FR 67249; November 6, 2000) was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the U.S. government-to-government relationships with Indian tribes.

- EPA notes the DEIS mentions ongoing consultation with tribal nations. We recommend the Final EIS describe the process and outcomes of consultations with these tribal governments including major issues raised and how those issues were addressed.
- Additionally, EPA encourages continued outreach and involvement of tribes in evaluating terrestrial and marine archaeological resources, designing marine surveys, and interpreting results. We also recommend that tribes be invited to participate in the development of an unanticipated discovery plan for offshore and onshore construction activities.

Environmental Justice (EJ) and Impacted Communities

The Council on Environmental Quality (CEQ), which oversees implementation of NEPA, has promulgated a guidance document to assist agencies in implementing EJ principles (See Environmental Justice Guidance under the National Environmental Policy Act, Council on Environmental Quality, December 10, 1997).

EPA has a strong commitment to promote the principles of EJ outlined in Executive Order 12898 - Federal Actions to Address EJ in Minority and Low-income Populations. According to the Executive Order, “Each Federal Agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA. Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental impacts of proposed Federal actions on minority communities and low-income communities.” Further Executive Order 14008 requires agencies to make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.¹

- As currently written, the environmental justice analysis does not consider cumulative impacts in the determination of disproportionately high and adverse impacts. In accordance with the Promising Practices for EJ Methodologies in NEPA Reviews², “agencies may wish

¹ Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad (Jan. 27, 2021).

to consider factors that can amplify identified impacts (e.g., the unique exposure pathways, prior exposures, social determinants of health) to ensure a comprehensive review of potential disproportionately high and adverse impacts to minority populations and low-income populations.” CEQ’s guidance, *Environmental Justice: Guidance Under the National Environmental Policy Act* (1997) also encourages agencies to consider relevant public health and industry data concerning the potential for multiple or cumulative exposures to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. . . even if certain effects are not within the control or subject to the discretion of the agency proposing the action”. EPA recommends BOEM consider how relevant existing conditions in communities with EJ concerns across cumulative environmental, health, socioeconomic and climate stressors may ultimately lead to impacts that are disproportionately high and adverse.

- Communities with EJ concerns are often disproportionately burdened by environmental hazards and stressors, unhealthy land uses, psychosocial stressors, and historical traumas, all of which drive environmental health disparities. The Final EIS should consider whether communities may already be experiencing existing pollution and social/health burdens. For example, EJ Screen analysis indicates that adjacent port communities near Paulsboro experience high levels of Particulate Matter 2.5 (PM2.5), diesel particulate matter and are rated as high air toxics cancer and respiratory risk. EPA encourages BOEM to consider the cumulative impacts of these existing conditions that together with the proposed action may result in disproportionately adverse impacts on affected communities with EJ concerns. Additionally, the FEIS should further describe the health effects of impacts.
- The DEIS makes the conclusion that utilization of SBMT would not result in high and adverse effects of environmental justice populations because the relative emissions are expected to be within the NAAQS for each pollutant. In considering impacts EPA urges that compliance with the NAAQS does not equate to no potential impacts and possible localized impacts to human health and the environment. EPA recommends the DEIS further consider localized impacts that port utilization may have on nearby communities.
- While EPA has issued formal designations as “attainment” or nonattainment” regarding certain criteria air pollutants, these designations may not always be representative of all localized air quality impacts and resulting health disparities. For instance, previously unidentified “hot spots” that exceed the level of the PM2.5 NAAQS may exist even in areas designated as attainment.
- Claims of minor air quality impacts to communities with EJ concerns are unsupported given the current level of analysis in the DEIS. Further modeling is required to support these claims.
- The DEIS states “The same type of construction and operations activities would occur in areas with and without environmental justice populations and the impacts on environmental justice populations would be similar to impacts experienced by the general population (p. 294).” Therefore, BOEM has determined that air emissions generated by construction,

operation, and decommissioning of onshore infrastructure would not disproportionately affect environmental justice populations.” As mentioned previously, an analysis of impacts should consider existing burdens on the community and the incremental impact of the proposed actions emissions. This type of analysis is further supported by the *Promising Practices for EJ Methodologies in NEPA Reviews* guidance which states that “Agencies may wish to recognize that in instances where an impact from the proposed action initially appears to be identical to both the affected general population and the affected minority populations and low-income populations, there may be inter-related ecological, aesthetic, historic, cultural, economic, social, or health factors that amplify the impact (e.g., unique exposure pathways, social determinants of health, community cohesion). After consideration of factors that can amplify an impact to minority populations and low-income populations in the affected environment, an agency may determine the impact to be disproportionately high and adverse.”²

- The DEIS concludes that noise associated with the proposed action will not have disproportionate and high adverse impacts on communities with EJ concerns. As stated above, impacts being similar across all populations and similar to existing daytime noise does not necessarily mean that impacts are not disproportionately high and adverse. Conclusions on impacts should take into account existing burdens to neighborhoods when making these determinations.
- EPA recommends BOEM develop a stakeholder outreach/EJ public engagement plan for areas that may be impacted by the proposed action and provide an opportunity for affected communities to inform the project’s mitigation measures. This outreach plan should detail information on planned engagement milestones and commitments to meetings with potentially impacted communities and community organizations.
- EPA encourages BOEM to determine if linguistically isolated populations reside in the geographic areas impacted by the proposed project and provide appropriate translation and interpretation services to ensure meaningful engagement. All outreach efforts should be documented in the EJ section of the DEIS.
- The DEIS narrows the discussion of EJ impacts to resources with major impacts initially. By not including other resources that may have moderate or minor impacts the analysis has the potential to miss disproportionate impacts.
- The DEIS states that the NYS State Environmental Quality Review Act (SEQRA) Environmental Analysis (October 2022) completed for SBMT “determined that the connected action would not result in significant adverse impacts for any of the impact analysis areas, and therefore would not result in any disproportionately high and adverse effects on minority and low-income populations (p. 3.12-26.)” The Environmental Analysis considered a radius of 0.25 miles. It should be made clear that impacts from construction and operation of SBMT are also considered as part of the DEIS using the EJ geographic analysis area developed for Empire Wind.

² Interagency Working Group on Environmental Justice, *Promising Practices for Environmental Justice Methodologies in NEPA Reviews* (p.39), March 2016.