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January 17, 2023

Brandi Sangunett, Deputy Chief
Office of Renewable Energy Program
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166
ELECTRONIC SUBMISSION

Re: Empire Wind COP DEIS (BOEM-2022-0053)

Construction and operation of a wind energy facility in Commercial Lease OCS-A 0512 with export cables connecting to New York's onshore electric grid.

NYS Comments on Empire Wind DEIS

Dear Brandi Sangunett:

The New York State Departments of State (NYS DOS) and of Environmental Conservation (NYS DEC), the New York State Energy Research and Development Authority (NYSERDA), and the New York State Office of Parks, Recreation, and Historic Preservation, in coordination with the Department of Public Service (NYSDPS), (collectively, the Agencies) jointly submit the below comments in response to the Bureau of Ocean Energy Management's (BOEM) Notice of Availability of a Draft Environmental Impact Statement (DEIS) for the review of a construction and operations plan (COP) for the Empire Wind Project (Project or Proposed Action) offshore New York.¹ In addition to the Project, the DEIS analyzes proposed upgrades to the South Brooklyn Marine Terminal (SBMT) as a connected action to support the Project's construction and operations, which is the subject of a separate NYS comment letter focused on the associated State Environmental Quality Review Act (SEQRA)² review found in DEIS Appendix P.

New York State (NYS or State) has a vested interest in the outcome of the Empire Wind Project, both for its potential environmental impacts and in advancing New York's forward-looking Climate Leadership and Community Protection Act (CLCPA). The two (2) offshore wind energy facilities proposed within lease area OCS-A 0512, Empire Wind 1 (EW1) and Empire Wind 2 (EW2), were awarded as part of the State's offshore renewable energy awards granted in 2019 and 2020 and will generate over 2-gigawatts of

¹ 87 FR 69330-01 [November 18, 2022]

² NY ECL s.8-0101, et seq.

renewable energy, making great strides toward achieving the State's 9-gigawatt offshore wind mandate by 2035 and reducing its reliance on fossil fuels. New York's clean energy goals are complemented by the State's ongoing commitment to minimizing impacts to ocean uses and resources through the responsible development of offshore wind in the Atlantic Ocean.

The Agencies' comments that follow continue to be supportive of responsible offshore wind development off New York and the timely completion of BOEM's environmental reviews. The Agencies generally agree with the scope of issues identified in the DEIS and believe that the identified impacts can be addressed in ways that will provide for a successful outcome for the Project, ocean industries, coastal communities, and the surrounding estuarine and marine environments. For example, BOEM's proposed mitigation measures, if adopted, would promote co-existence with ocean industries including implementing a comprehensive Mariner Communication and Outreach Plan, seeking stakeholder input on a draft Cable Burial Risk Assessment prior to construction, installing fishing gear-friendly cable protection measures, compensating for fishing gear losses and damage, and compensating for lost fishing income. Additionally, BOEM's environmental review is being used to satisfy the New York State Environmental Quality Review Act (SEQRA) for SBMT, and the completion timeline of this environmental review is therefore integrally linked to the State's funding and regulatory reviews for that project. As BOEM prepares to conclude its environmental review, the Agencies are committed to seeking ways to address potential impacts through avoidance and minimization measures wherever possible and then, where unavoidable, through appropriate, well-defined, and enforceable mitigation strategies.

The Agencies note that, notwithstanding BOEM's obligation to analyze the environmental impacts of the entire project footprint including State waters relevant and upland transmission components, the State is undertaking a parallel process pursuant to Article VII of New York State Public Service Law § 120 et. seq. that analyzes the need for and environmental impacts of transmission components within the State's jurisdictional boundary. Two Article VII filings have been submitted to the NYS Public Service Commission: EW1 is currently in settlement discussions with Parties (see Case 21-T-0366),³ and EW2 was recently deemed complete (see Case 22-T-0346).⁴ Additional siting and design refinements and conditions of construction and operations are anticipated to result from the Article VII reviews. As cooperating agencies in BOEM's NEPA review and parties to the Article VII proceedings, NYSDOS and NYSDEC are available to facilitate coordination between these concurrent review processes.

In review of the DEIS, the Agencies request that BOEM's Final EIS (FEIS) evaluate and address the following:

1. Alternatives:
 - a. Alternative B: The Agencies support Alternative B that would remove six (6) wind turbine positions in the northwestern portion of the Lease Area. This alternative offers expanded access to commercial fishing grounds, reduction in navigational safety risks for commercial vessel traffic by increasing the setback distance to the highest density vessel traffic in the adjacent traffic lanes and Precautionary Area, a reduction in adverse impacts to hard bottom habitats of Cholera Bank, and improved conditions for scenic and visual resources compared to other action alternatives, including the Proposed Action. As the

³ <https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=65825&MNO=21-T-0366>

⁴ <https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=68315&MNO=22-T-0346>

Nation's busiest port complex, the NY/NJ Harbor is an economic driver for NYS and the region. Likewise, New York's robust commercial fishing industry is of economic significance to the State with areas like Cholera Bank providing prime fishing grounds. Alternative B prioritizes these important industries while reducing impacts to key coastal resources.

- b. Alternative D: The Agencies support Alternative D that proposes to avoid impacts to the sand borrow area off Long Beach, NY. This sand borrow area is routinely used for beach nourishment projects and is the largest and closest borrow area to Nassau County's south shore. Deeper burial depths to avoid the sand borrow area have been deemed infeasible by the developer, therefore, if the export cable crosses the sand borrow area, it is expected to restrict the use of the borrow area and result in long-term impacts to nearby beaches and future resilience projects. If the borrow area is unavoidable, the Agencies recommend that BOEM prepare an assessment of the volume of material that would become inaccessible as a result of the Proposed Action. Geophysical and geotechnical information collected to support development of the cable route should be used to delineate or verify the suitability of impacted sand resources.
 - c. Alternative F: Additional detail should be provided to explain the basis for the optimized turbine layout identified as Alternative F in the DEIS. Specific emphasis should be given to the justification for removing turbine positions; explaining the need for turbine positions in the far northwest portion of the lease area; describing potential impacts to habitats in and adjacent to Cholera Bank; and describing potential impacts to fishing access and navigational safety given the irregular layout. The EIS should provide a descriptive analysis of this alternative to clearly explain the potential impacts, something which is not provided for in some impact categories. For example, Section 3.13 does not identify the impacts of Alternative F to Finfish, Invertebrates, and Essential Fish Habitat, relying only on the assessment that "[t]he total area of habitat disturbed by or converted to hard-bottom habitat would not change under Alternatives B, E, and F compared to the Proposed Action."
 - d. Furthermore, the Agencies recommend evaluating the technical feasibility of combining Alternatives B (removing six turbines) and F (optimized layout). Options to that either combine Alternatives B and F or refine Alternative F by substituting turbine positions in the northwest for those further to the southeast, where geotechnical conditions are more promising, should be thoroughly explored.
2. Level of Impacts: The Agencies urge BOEM to refine its impact level definitions system to afford greater weight for impact avoidance. For example, alternatives that allow for sensitive benthic habitat to be preserved should rank as less impactful than the proposed action that will negatively impact those habitats.
 3. Weather and Natural Events: In Section 2.3, in the third bullet point ("[s]evere weather and natural events"), the DEIS should clearly describe the design parameters for the Wind Turbine Generators ("WTGs"), the weather conditions they have been designed to withstand, the prevalence of such conditions, and the likelihood of failure. As a point of reference, a good example of the type of analysis we are recommending can be found in the DEIS for the Sunrise Wind Project on page 2-44 of that document. Such an analysis is important to assessing the impacts of severe weather events on the Proposed Action.

4. Air Quality (Section 3.4; Appendix G):

- a. In Section 3.4.5, the Social Cost of Greenhouse Gases (SC-GHG) is not exclusive to the three gases mentioned but applies to any GHG. For example, the Environmental Protection Agency (EPA) has published SC values for HFCs that were not initially provided by the Interagency Working Group (IWG). For other gases, such as SF₆, an estimate can be produced using Global Warming Potential (GWP). Although modeled values are preferred by the IWG, the GWP can provide information on some of the potential damages associated with radiative forcing. It is preferable to use the GWP as a temporary measure when needed rather than assume that these gases do not cause damages or that the cost of these damages is zero.
- b. The EIS should estimate the SC-SF₆ as SF₆ equipment will be installed and is expected to leak continuously during the equipment's useful life. As in the case of the CO₂, CH₄, and N₂O damage estimates provided here, the SC-SF₆ would be estimated by converting the annual emission of SF₆ to CO₂e, multiplying that emission by the SC-CO₂ for that year, and then summing across all years to calculate Net Present Value (NPV). We recommend using the GWP values provided in the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment WG1 report from 2021 rather than the Fourth Assessment Report from 2007. The older GWPs are used in GHG accounting because of the national guidelines for emission reporting. However, it would not be appropriate to use the 2007 values when estimating damages as they do not reflect the best available science or the substantial growth in GHG concentrations since that time.
- c. It would be useful to reference other data tables that contain the emissions estimate for each gas in each year.
- d. In DEIS Appendix G, Table 3.4-2, add notes clarifying (a) whether the data are based on Appendix K of the COP and include, among other emissions sources, emissions from all vessels travelling between SBMT and the Offshore Project Area and SBMT and third-party supply facilities (i.e., offshore wind and Staging); and (b) that these projections do not include emissions from Berthing Vessels, which are addressed at Section 3.4.5.1 and in SBMT Environmental Assessment (EA) Appendix P.
- e. In DEIS Appendix G, Section 3.4.5.1, amend the final two paragraphs to read: “Emission sources associated with construction and operations of SBMT would include land-based non-road equipment and on-road vehicles, vessels performing dredging, HVAC equipment, emergency generators, and vessels accessing berthed at the site⁵ for staging and construction of the Empire Projects. These emissions potentially could increase pollutant concentrations above the levels that were modeled for SBMT. SBMT performed air quality dispersion modeling to estimate pollutant concentrations for the highest-emissions periods for SBMT construction and operation. The results showed that all concentrations during each phase would be well within the NAAQS and New York AAQS (NYCEDC 2022, Table 3.20-6); DEIS Appendix P, SBMT EA Appendix P at pg. 205. ~~Construction and operation of the Proposed Action at SBMT would include land-based non road equipment and on road vehicles, vessels accessing the site, and emergency generators. These emissions potentially could increase pollutant~~

⁵ SBMT EA Appendix P (Supplemental Air Analysis) at section 2.2.1 indicates that emissions from such vessels during transit are separately captured in Appendix K to the COP. (“The vessels associated with transit for OSW construction have been accounted for in the Empire Wind Projects’ COP (May 2022), so they are not considered in this analysis.”)

concentrations above the levels that were modeled for SBMT. Comparison of the relative emissions for the Projects and SBMT indicates that the combined concentrations for the Projects and SBMT would be expected to be within the NAAQS and New York AAQS for each pollutant, for all years of the Projects' construction and operation.”

- f. In DEIS Appendix G, Section 3.4.5.1, add a final paragraph that aggregates impacts of the connected action with localized impacts of the Proposed Action (i.e., allocated to Kings County) for those pollutants that can have localized impacts on air quality. The analysis should include emissions from (i) construction of SBMT (NYCEDC 2022, Table 3.20-6) (ii) operations of SBMT during Empire construction (NYCEDC 2022 Supplemental Air Analysis) and (iii) emissions from construction of Empire allocated to Kings County (COP Appendix K, Section K-3, Geographic Allocation of Emissions).
 - g. In DEIS Appendix G, Section 3.4.5.3, amend conclusions regarding the Connected Action to include conclusions on aggregate localized impacts (from Section 3.4.5.1, as amended above), counting both local emissions evaluated as part of the Proposed Action and emissions evaluated as part of the Connected Action.
 - h. Section 3.12 has emissions tables for Albany County and Nassau County, but no table for Kings County. There is a general reference to modeling in the SBMT EA, but that data does not include offshore wind data allocated to Kings County.
5. Pipe stringing activities (Section 3.8): Pipe stringing is expected to be required for EW2 cable landfall where trenchless technologies will be utilized. This work and the anticipated staging locations, potential beach access, and/or possible temporary restrictions on public access should be acknowledged and evaluated in the EIS. If it is truly uncertain, then the Agencies recommend identifying this in Section 3.8.4 (variances in impacts).
 6. Sediment transport analyses in NYS waters (Section 3.8): impact of exposure from the contaminated sediment plume and exposed contaminated sediments on aquatic biota should be analyzed in greater detail and at a finer scale. Analyze cumulative effects of water quality and sediment conditions during and following construction for the Empire and SBMT projects. The Agencies recommend incorporating the EW1 Article VII sediment transport analyses into the EIS.⁶
 7. Geographic analysis area (Section 3.9): The Agencies recommend that the range of states included in the commercial and for-hire fishing analysis should be reduced to reflect the states with active commercial fishing in the project. NYS has routinely commented that the range used to evaluate the average revenue and landings is too broad to evaluate a specific fishing area and leads to a diluted assessment of the overall effect on fisheries and fishing industries that may be affected by the Project. For comparison, BOEM analyzed a well-defined and appropriate Regional Fisheries Area in the Revolution Wind DEIS (see Revolution Wind DEIS, Figure 3.9-2). Establishing a project-specific Regional Fisheries Area should be the standard for all offshore wind environmental reviews. Fishermen operating off New York should be afforded a similar detailed analysis as those operating off Rhode Island and Massachusetts.

⁶ See items 41 and 43 <https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=65825&MNO=21-T-0366>

8. Commercial and for-hire fisheries economic exposure (Section 3.9): The analysis of potential impacts of the Project on fishing industries should include:
 - a. A quantitative analysis of fisheries economic exposure along the export cable corridors and shoreside industries (e.g., processors, fuel suppliers, distributors). The Agencies suggest relying on the RIDEM 2017 analysis for the export cable corridors in federal waters.⁷ Revolution Wind, Vineyard Wind, and South Fork Wind included quantitative exposure analyses of the wind farm area, cable corridors, and shoreside industries, which set a precedent of analyzing the entire project area and full scope of potential upstream and downstream effects. BOEM's draft fisheries mitigation guidance articulates the importance of developing accurate revenue exposure estimates in order to evaluate the potential for income losses to fishing industries and demonstrate the need for compensation.⁸ Omitting the cable corridors and shoreside industries from this analysis would undervalue the revenue exposure estimate and is a departure from BOEM's past EISs.
 - b. Careful consideration of methods to adjust for inflation over time and address regional and fishery-specific variation in shoreside industries. For example, a 2020 report by Murray et al.⁹ provided estimates of value added for summer flounder that suggest a multiplier of 12X, and a 2020 study from Scheld¹⁰ reported a multiplier for longfin squid of 7.64X.
 - c. Compensation for gear loss and damage that extends through operations and beyond if Project infrastructure is not fully removed.
 - d. A compensation value that is inclusive, fair, and equitable so that demonstrated impacts can be offset regardless of where fishermen land their catch or where shoreside businesses are located.
 - e. A Record of Decision that emphasizes the need for a compensatory mitigation claims process that is transparent, data-driven, and uncoupled from states' Coastal Zone Management Act (CZMA) reviews and, in so doing, provides compensation for demonstrated impacts to communities and businesses in a fair and equitable manner.
9. Cable emplacement (Section 3.9): The analysis of impacts to commercial and for-hire fishing industries should be updated to reflect that significant displacement from construction noise and traffic will occur. As explained in BOEM's Fisheries Mitigation Guidance, projects should assume 100% displacement during construction activities. Moreover, cable emplacement activities will be longer than a few "hours", as currently characterized in the EIS, especially in the Harbor approaches and NYS waters. The assessment should account for the pre-installation

⁷ See https://dem.ri.gov/sites/g/files/xkgbur861/files/programs/bnatres/fishwild/pdf/RIDEM_VMS_Report_2017.pdf

⁸ See Docket BOEM-2022-0033 and <https://www.boem.gov/renewable-energy/reducing-or-avoiding-impacts-offshore-wind-energy-fisheries#:~:text=On%20November%2023%2C%202021%2C%20BOEM.to%20commercial%20and%20recreational%20fisheries>

⁹ Murray, T.J. 2020. Economic Impacts of Reduced Uncertainty Associated with Fishery Management Actions with Summer Flounder, Report to the Science Center for Marine Fisheries, June 2020, available at https://scemfis.org/wp-content/uploads/2020/06/Econ_Flounder_2020.pdf.

¹⁰ Scheld, A. M. 2020. Economic Impacts Associated with the Commercial Fishery for Longfin Squid (*Doryteuthis pealeii*) in the Northeast U.S., Virginia Institute of Marine Sciences, 2020, available at https://scemfis.org/wp-content/uploads/2020/03/LFS_EI_Report.pdf

activities that will require pre-sweeping, pre-jetting, sand wave leveling, and other site preparation weeks prior to cable installation. For example, EW1 pre-installation activities as well as cable burial depth requirements of at least 15ft deep in certain locations necessitate specialized installation tools, complex anchoring and spudding techniques, and longer installation timeframes, all of which have the potential to displace fishing activity along the export cable route on the order of months (not hours or weeks). The analysis of cable emplacement activities should more specifically address the unique circumstances and specialized installation techniques.

10. Sand borrow area (Section 3.14): The EIS should be updated to acknowledge the potential for longer-term impacts to beach and resilience projects from installing the EW2 export cable as part of the Proposed Action (vs. Alternative D) and subsequently restricting the use of the large sand borrow area off Long Beach, NY. See also Item 1.c above.
11. Navigation and Vessel Traffic (Section 3.16):
 - a. The Agencies recommend updating the EIS to acknowledge that Alternatives B and F would more closely align with the two (2) nautical mile Traffic Separation Scheme setback distances specified in the U.S. Coast Guard Marine Planning Guidelines and therefore have long-term risk reduction.¹¹
 - b. The Agencies recommend that clarifying edits be made to the DEIS wherever vessel numbers are quantified, to make clear whether such references include the nature of such vessels (i.e., construction or support) and whether they will be making trips to and from ports such as SBMT.
12. Recreation and Tourism (Section 3.18): The EIS should assess the feasibility of including mitigation measures to preserve public access to the beach throughout construction and minimize cable emplacement activities during the peak recreation season from Memorial Day through Labor Day, which is of particular importance for the EW2 cable landfall. The EIS acknowledges that impacts on recreation and tourism would be greater if construction were to occur during this season.
13. Water Quality (Section 3.21): It is not clear how the potential for water quality exceedances of contaminants was assessed. This should be clearly defined and described in the EIS. It should be noted that the "Sediment Transport Analysis" report (COP Appendix J) modeling was completed using non-site-specific data. Additionally, Section 3.21-1 Description of the Affected Environment for Water Quality should mention the potential for increases in contaminant concentrations (not just total suspended solids and turbidity) in ambient waters from sediment disturbing activities.

¹¹ USCG. 2019. Guidance on the Coast Guard's Roles and Responsibilities for Offshore Renewable Energy Installations (OREI). NVIC 01-19. Available at: <https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/5ps/NVIC/2019/NVIC%2001-19-COMDTPUB-P16700-4-dtd-01-Aug-2019-Signed.pdf?ver=2019-08-08-160540-483>

14. Connected Action (Section 3.21.5.1): the Connected Action will disturb and expose high Class B and Class C contaminated sediments.¹² The Agencies recommend further consultation with U.S. Army Corps of Engineers and NYSDEC on anticipated minimization and mitigation measures.
15. Mitigation and Monitoring (Appendix H):
- a. Attachment H-2: The Agencies recommend coordinating with state and federal resource agencies to develop a new mitigation measure that requires avoidance of Unexploded Ordnance (UXO) detonation and, where demonstrated to be necessary for the Project, to seasonally restrict detonation to minimize protected marine species impacts. The applicant should consult with state and federal agencies regarding seasonal restriction windows if detonation is necessary.
 - b. Attachment H-3, Bird and Bat Monitoring Framework: The Framework currently proposes to initiate monitoring after EW2 is completed, despite the phased construction schedule (turbine installation for EW1 is expected to begin in 2025-2026 while turbine installation for EW2 is expected to begin 2026-2027). The Agencies suggest considering the feasibility of initiating the Bird and Bat Monitoring Framework after EW1 is operational to allow the possibility of adaptive management by collecting important data from the beginning of Project operations and continuing after the Project is fully operational.
16. Because the Agencies will rely upon the EIS for compliance with SEQRA, adherence to the SEQRA EIS requirements is needed. SEQRA requires that EISs for electric generating facilities assess consistency with the most recent state energy plan. See 6 NYCRR 617.9(b)(5)(e). On April 8, 2020, the New York State Energy Planning Board adopted amendments to the 2015 New York State Energy Plan to incorporate the CLCPA commitments. CLCPA commits the State to eliminating 100% of the electricity sector’s greenhouse gas emissions by 2040, the most aggressive clean energy requirement in the nation. To support this effort, CLCPA increased the State’s interim renewable electricity commitments from 50% to 70% by 2030 to be achieved in part by the development of 9 gigawatts of offshore wind energy generating capacity by 2035. The DEIS should make clear that the Proposed Action advances the commitments of CLCPA and consequently the State Energy Plan. Accordingly, DEIS Page 1-4, paragraph 4 should be modified as follows: “The Projects would contribute to New York’s goal of 9 gigawatts (GW) of offshore wind energy generation by 2035 as outlined in the New York State Climate Leadership and Community Project Act, and likewise advance the goals of the 2015 New York State Energy Plan as amended on April 8, 2020.”

The Agencies appreciate the opportunity to provide this input and look forward to continued collaboration as BOEM undertakes an important next step in concluding this federal environmental review. Please contact Michael Snyder, Ocean and Great Lakes Program Manager at NYSDOS (518-944-5260; michael.snyder@dos.ny.gov); Karen Gaidasz, Offshore Wind and Hydroelectric Section Chief at NYSDEC (518-402-9153; karen.gaidasz@dec.ny.gov); Thomas King, Senior Counsel at NYSERDA

¹² NYSDEC. 2004. Technical & Operational Guidance Series (TOGS) 5.1.9: In-Water and Riparian Management of Sediment and Dredged Material. Division of Water, Bureau of Water Assessment and Management. Available at: https://www.dec.ny.gov/docs/water_pdf/togs519.pdf

(518-862-1090, ext. 3609; thomas.king@nyserda.ny.gov); and Shari Calnero, Associate Attorney at OPRHP (518-402-5685; shari.calnero@parks.ny.gov) for further detail on the above comments.

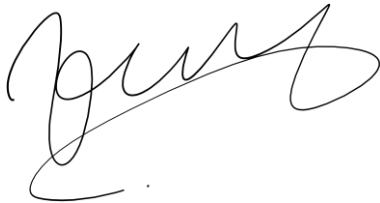
Sincerely,



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Office of Planning, Development
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Sean Mahar
Executive Deputy Commissioner
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*ecc: Michelle Morin, BOEM
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