New England Fishery Management Council

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

February 14, 2023

Jessica Stromberg
BOEM Office of Renewable Energy Programs
45600 Woodland Road
Sterling, Virginia 20166

Re: Draft Environmental Impact Statement for Sunrise Wind Project offshore New York, Massachusetts, and Rhode Island

Dear Ms. Stromberg,

Please accept these comments from the New England Fishery Management Council (New England Council) and the Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) regarding the draft environmental impact statement (DEIS) for the Sunrise Wind Project. The DEIS analyzes the potential environmental impacts of the project as described in the Constructions and Operations Plan (COP) submitted by the developer (i.e., the proposed action), as well as the impacts of one other alternative (with two sub-alternatives) to the proposed action, and a no action alternative. After considering comments received through this comment period, BOEM will publish a final environmental impact statement (FEIS) that will inform BOEM's decision to approve, approve with modifications, or disapprove the COP.

The New England Council manages over 28 marine fishery species in federal waters and is composed of members from the coastal states of Maine to Connecticut. The Mid-Atlantic Council manages commercial and recreational fisheries for more than 65 marine species[1] in federal waters and is composed of members from the coastal states of New York to North Carolina (including Pennsylvania). In addition to managing these fisheries, both Councils have enacted measures to identify and conserve essential fish habitat (EFH), protect deep sea corals, and sustainably manage fisheries for forage species. The Councils support policies for U.S. wind energy development and operations that will sustain the health of marine ecosystems and fisheries resources. While the Councils recognize the importance of domestic energy development to U.S. economic security, we note that marine fisheries throughout New England and the Mid-Atlantic, including within the Sunrise Wind project area and in surrounding areas, are profoundly important to the social and economic well-being of communities in this region and provide numerous benefits to the nation, including domestic food security.

Given the current pace of offshore wind energy development in this region and workload constraints, we are unable to provide a detailed review of this project and the DEIS. For example, this comment period overlaps with comment periods on DEIS documents for three other wind projects in our region as well as BOEM's Renewable Energy Modernization Rule and the Coast Guard's Port Access Route Study for Approaches to Maine, New Hampshire, and Massachusetts. The analysis in the DEIS has important ramifications for terms and conditions which may be implemented through final project approval, including fisheries mitigation and compensation measures. With this in mind, we strongly

[1] Fifteen species are managed with specific Fishery Management Plans, and over 50 forage species are managed as "ecosystem components" within the Mid-Atlantic Council's FMPs.

encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils, which apply across all projects.[2] Our two Councils worked together on and adopted the same wording for these policies. We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project, including recommendations regarding data considerations, impacts analysis, and ways to minimize the negative impacts of this project on marine habitats, commercial and recreational fisheries, and fishery species.

Our key recommendations are as follows. Additional details are provided below.

- Clarify in the purpose and need section that BOEM is not bound to consider approval only of projects that are large enough to meet existing state energy procurements.
- Clarify how alternatives can be combined, namely C1 and C2 along with the C-2a through C-2d sub-options, and which turbine placements would be removed from consideration under each.
- Analyze the impacts of all action alternatives in detail, including Alternatives C1 and C2, not just the no action and proposed action.
- State if impacts are beneficial or adverse.
- Under No Action, compare to both scenarios, i.e., where all other wind projects are constructed and where no other projects are constructed.
- Expand on discussion of potential impacts to the Mid-Atlantic Cold Pool.
- Identify which mitigation measures are assumed for the purpose of impacts determinations.

Purpose and Need

The National Environmental Policy Act requires consideration of a range of alternatives which could meet the defined purpose and need for the action. Section 1.2 of the DEIS (Purpose and Need of the Proposed Action) notes that Sunrise Wind can produce up to 1,034 MW of electricity and the project is already obligated to provide 880 MW (up to a maximum of 924 MW) to the state of New York. Each action alternative in the DEIS (i.e., Alternatives B, C-1, and C-2) includes *up to* 94 wind turbine generators and could produce *up to* 1,034 MW of electricity. The minimum number of turbines and the minimum total MW of energy generation required to meet the purpose and need is unclear. This poses challenges for determining which final configurations of the alternatives could meet the purpose and need while reducing the negative environmental and socioeconomic impacts of the project.

We are concerned about the implication that only alternatives which would generate the full procured amount of electricity could meet the purpose and need. This interpretation is inconsistent with the purpose and need as written. This could limit BOEM's ability to reduce the potential negative environmental impacts of the project by considering approval of a smaller project than that proposed by the developer. We suggest that Sunrise Wind's FEIS and future DEIS and FEIS documents for other projects more clearly indicate that the agency is not bound to consider approval only of projects that can produce a certain amount of electricity. BOEM should consider federal and state renewable energy targets as well as existing procurements when preparing an EIS and determining whether to approve a project. However, it should be made clear that BOEM can approve a project that is smaller than what was proposed or procured. We suggest expanding on this to make it clear that the project will avoid risks to the health of marine ecosystems, ecologically and economically sustainable

[2] Available at https://www.mafmc.org/s/MAFMC_wind_policy_Dec2021.pdf

fisheries, and ocean habitats. BOEM should clearly acknowledge that if these risks cannot be avoided, they should be minimized, mitigated, and compensated for.

Alternatives to Meet the Purpose and Need

The DEIS includes three alternatives, including two sub-alternatives for Alternative C. Alternative A is the no action alternative. Alternatives B and C use a uniform east-west and north-south facing grid of 1 x 1 nautical miles between wind turbines, as agreed to by multiple lease holders in the MA and MA-RI Wind Energy Areas.

Alternative B is the proposed action as described in the COP and includes up to 94 wind turbine generators with a nameplate capacity of 11 MW, one offshore DC substation, and one DC export cable. This would result in a 1,034 MW facility. Up to 103 placement positions for turbines and the DC substation are available; it would be helpful to understand which of the eight turbine positions are likely to be dropped if the entire 1,034 MW facility was constructed. The DEIS only considers 11 MW based on the contract limitations described on page 2-40. We support consideration of a reasonable range of MW capacities, including higher MW turbines as this can reduce the footprint of the project, while still generating the same amount of power.

Alternative C includes two sub-alternatives to reduce impacts to habitat and cod spawning. NMFS identified four priority areas from which they suggested removing turbines, ranked based on documented cod spawning activity, presence of large boulders, and proximity to Cox Ledge. We understand that they are presented in rank order, with Area 1 being highest priority for removal and Area 4 lower priority. We recommend providing further details in the FEIS on how these four priority areas were defined. We also recommend clarification of how future identification of additional cod spawning locations based on ongoing research could alter the turbine configuration.

The specific locations proposed for removal under Alternatives C1 and C2 are not included in the alternatives section of the DEIS, but are included in Section 3.5.2.6, which describes the expected impacts of Alternative C1 on benthic resources. These details should also be included in the alternatives section. Alternatives C1 and C2 do not propose removing all turbines within the priority areas recommended by NMFS. The FEIS should explain why full removal of the NMFS highest priority areas wasn't considered.

Alternative C1 would remove 8 turbine positions that are in or adjacent to known or likely areas of contiguous complex benthic habitat or cod spawning areas. In addition to these 8 turbine positions (87-94), we also recommend removing the positions labeled 95-96 to create a continuous area of complex habitat protected from development. Alternative C2 would identify additional turbine positions (beyond those removed in C1) that are in or adjacent to known or likely areas of Atlantic cod spawning and relocate these turbines to the eastern part of the lease area which was surveyed during 2022. Alternative C2 is more protective of habitat and cod spawning than C1, assuming that habitats in the eastern part of the lease, which had been less well studied at the time of COP development, are less complex and less likely to support cod spawning activity. The relationship between sub-options C-2a through C-2d (Figures 3.5.2-3 through 3.5.2-6) and priority areas should be explained, including why NMFS priority 1 area turbines weren't the first to be excluded under these alternatives.

Alternative C2 is described as being feasible subject to geological study and meeting the purpose and need. The developer should complete any necessary geological surveys prior to FEIS development so BOEM does not analyze an infeasible alternative from a geotechnical standpoint. It is not clear if the entire project area has been surveyed, the timing of geological sampling relative to the COP, and if there will be the same geotechnical challenges that arose in Empire Wind 1's project area, where some turbine locations and associated alternatives were determined to be infeasible following release of the COP. The COP appears to have been revised several times (August 2021, October 2021, and August 2022) and the timing of sampling and the geological sampling area are not well defined. This concern highlights the challenges with the environmental review process for offshore wind energy projects to date. Geophysical survey work (e.g., a full site assessment) should be completed before releasing a COP and before developing the DEIS in order to inform the alternatives and analyses. This can help ensure that all alternatives considered in the DEIS are technologically feasible.

For each alternative (B, C1, and C2), we recommend providing figures of the lease area, turbine placement positions, and cable routes relative to backscatter and boulder locations. Figure 3.5.2-1 only includes boulder densities within the lease area and backscatter data would be helpful to further delineate complex hard bottom substrates. Furthermore, layering cod spawning aggregation data on such a figure would also be helpful in identifying certain areas of the lease to avoid or mitigation measures to reduce any impact (e.g., time of year restrictions for cod spawning).

The proposed action includes an AC to DC converter station with an associated cooling system. This is noteworthy from a fisheries perspective because the cooling system will entrain larvae, all of which are expected to experience mortality due to the high temperature effluent. Given this level of expected impact, we recommend including a rationale for the cooling station's location in the proposed action, which could also have an impact on heat dissolution. We also recommend evaluating whether a different cooling station location would result in fewer larval impacts.

Recommendations for Preferred Alternatives

We support Alternative C2 with a focus on developing the easternmost portion of the lease in order to protect complex habitat and known cod spawning locations. As previously stated, further information is needed to fully understand which placement positions would be removed for each of these sub-alternatives individually and when combined. We recommend using NMFS priority areas to determine which turbine positions should be excluded from development to reduce the potential for negative impacts to fisheries and habitats.

Affected Environment and Impacts Analysis

The DEIS and FEIS documents for this and other projects should evaluate a range of turbine MW sizes that are realistic for development. There are tradeoffs inherent in the selection of larger or smaller turbines. For example, larger turbines will require larger impact hammers during installation, but the use of larger turbines will allow for fewer locations overall. Considering only 11 MW turbines in this DEIS precludes evaluation of tradeoffs.

Overall, the evidence and information provided should be consistent with impact determinations. For every analysis in the FEIS, we recommend including detailed information on the methods, caveats, and assumptions in order for stakeholders to understand and evaluate potential impacts and resulting

avoidance, minimization, mitigation, and compensation measures. These comments apply to fisheries impacts as well as other impact analyses in the FEIS.

The characterization of the NEFMC Habitat Area of Particular Concern (HAPC) is not accurate and should be corrected in the FEIS. The DEIS characterizes the NEFMC HAPC as "not actually defined by the presence of habitat but by the presence of offshore wind" (page 3-202). Per the Southern New England HAPC Framework document, the HAPC is defined as the presence of cod spawning and complex habitat within areas where offshore wind development is being planned and/or constructed. The spatial extent of this habitat area is limited to offshore wind lease areas, given that impacts associated with offshore wind development are of significant concern to the New England Council.

Regarding fisheries impacts, we have the following concerns:

- Table 3.6.1-1 through Table 3.6.1-11 include average commercial fishing landings and revenue data over many years. While this is helpful to gain a broad understanding of the level of revenue exposure in the lease area and cable routes, including data by year is most helpful, similar to what is provided in NOAA's Socioeconomic Impacts tool. This annual information is displayed in a poster in the virtual meeting room, however, it does not appear to be included within the DEIS for commercial fishing, like it is for for-hire fisheries. Fisheries revenues can fluctuate for a variety of reasons (changing fish distributions, change in fishing regulations, market factors, etc.), therefore, an average value may not always accurately describe the economic value of the fishery.
- We recommend better characterizing which commercial and recreational fisheries and fish species would be affected by various stages of wind development and why. Unless necessary to protect confidential data, grouping data across all FMPs is not particularly helpful given the impact determinations could differ by fishery and species.
- Table 3.6.1-13 includes the number of vessels and outliers in the lease area by year; however, the table description and corresponding text do not include a description on what is meant by 'outliers.' This is a term that is typically used for observations that lie an abnormal distance from other values in a sample. Only the text on a preceding page indicates that the outliers are vessels that derived a high proportion of its revenue from the lease area. No analysis is presented that shows this determination used standard statistical techniques, for example, the third quartile plus 1.5 times the interquartile range is a standard approach to estimating 'mild' outliers[3]. The FEIS should describe specifically how these outliers were determined. In some years, 15% of the vessels are characterized in this way, which is a large percentage, suggesting the underlying data generally cover a narrow range of values, but with a substantial number of vessels falling outside the range. In addition to documenting the methods, we suggest calling these vessels "highly dependent", including more detailed table captions and column headers for tables, and including cross references to tables in the corresponding text.
- We appreciate that the DEIS includes recent fishery data and mentions impacts to NMFS scientific surveys.
- Highly Migratory Species (HMS) trips are only briefly mentioned on page 3-689 and do not include any corresponding data tables or specific information by species. We recommend including the number of trips, landings, and revenue by species in the fisheries affected environment and impact section.

[3] https://www.itl.nist.gov/div898/handbook/prc/section1/prc16.htm

- Pages 3-408, 3-419, and 3-425 reference the potential for commercial and for-hire recreational vessel operators to switch gear types and to target less-valuable species. These may not be feasible approaches for fishermen given the high cost, potentially lower prices, and different permits that would be required. Such adaptation would only occur over the longer term and may require fishery management changes.
- The fisheries revenue exposure compares FMP revenue exposure within the lease area to the total annual FMP revenue in the Mid-Atlantic and New England regions. This comparison minimizes the potential impact of lease development on fisheries. We recommend comparing revenue exposure to a more geographically specific area or port.

The DEIS describes commercial and recreational fisheries within the lease area and the export cable corridor. Some fisheries will be impacted by activities within both the lease area and the export cable corridor, while other fisheries will be primarily impacted by one or the other. It is important to consider the differences in impacts due to the different activities which will occur in the lease area and the cable corridor and the different fisheries that operate in those areas. Different mitigation measures may also be relevant for the two areas. For these reasons, we support the approach of analyzing the lease area and export cable corridor separately in terms of their impacts on fisheries, as well as considering their combined impacts. This approach should be carried forward in future analyses of other wind projects.

Entrainment of cooling water at the converter station is discussed on page 3-234. The analysis estimates adult equivalent losses for eight abundant or commercially important fish species. Appendix B (page B-125) includes a brief description for how adult equivalent losses are estimated. The accuracy of these predicted values is uncertain given the fecundity range used to estimate adult losses and the uncertainty levels around these estimates are not provided. It is also not clear why there are only 8 species included in the impact analysis versus the most abundant species found within the plankton data, or how "commercially important" (by revenue? or landings?) and "abundance" are defined.

The analysis references proximity to Cox Ledge. The location is referenced as a single point; however, this is misleading, and it should be represented by a polygon. The single point characterization of Cox Ledge does not provide a meaningful description of potential impacts given both cod spawning sites and complex habitats occur in locations that would do not directly overlap this point. Furthermore, the distance from this single point does not account for noise impacts on cod spawning as would otherwise be addressed if the area was represented as a larger polygon. It is possible that cod will not aggregate due to construction activities, and their vocalizations may therefore be reduced. Research by the Massachusetts Department of Marine Fisheries found that relatively minor disturbances from gillnet fishing interrupted the development of cod spawning aggregations (Dean et al. 2012)[4]; it is reasonable to expect construction activities may do so as well.

The DEIS suggests that hydrodynamic effects and disturbances on benthic resources will result from the project; however, we are concerned that their extent may be underestimated. For example, the presence of structures could impact the Mid-Atlantic Cold Pool, causing changes in temperature, mixing, larval transport of important commercial and recreational fish species (e.g., sea scallops), and

[4] Dean, M., W. Hoffman and M. Armstrong (2012). "Disruption of an Atlantic Cod Spawning Aggregation Resulting from the Opening of a Directed Gillnet Fishery." North American Journal of Fisheries Management 32: 124-134.

temperature corridors used for migration for multiple important fishery species. This is an area of ongoing research[5]. The FEIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The FEIS should acknowledge data gaps and ongoing research and should fully consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects throughout the region.

The Councils are concerned about the impacts of boulder removals required for cable installation, especially when done via plow, which is the proposed method in combination with boulder grabs (page 3-420). We recommend using grabs to relocate boulders given plowing will have a much larger impact on benthic habitats than grabs. The FEIS should specify plow width and the size of the area that will be impacted. The nature of this impact is very different from dredging used to harvest seafood, and the scientific literature on fishing gear impacts is unlikely to provide a reasonable proxy for the impacts of boulder clearance plows. For example, fishermen attempt to avoid boulders to reduce the risk of costly damage to fishing gear, and the penetration depth of fishing gear is much less than a boulder clearance plow.

The FEIS, and all future NEPA documents for other wind projects, should specify if an impact is adverse or beneficial. The DEIS indicates that impacts are adverse unless specified as beneficial. However, some impact producing factors (e.g., presence of structures) are expected have both adverse and beneficial impacts (e.g., adverse for soft bottom species and beneficial for structure-oriented species). The clarity of these descriptions would be improved if "adverse" or "beneficial" were specified for each impact, or, at a minimum, at the beginning of each section. This should be done consistently throughout all sections of the document.

Mitigation, Terms and Conditions

Mitigation measures are necessary to reduce the potential negative environmental and socioeconomic impacts of the Sunrise Wind project. The recommendations outlined in our offshore wind energy policies, referenced above, should be reflected as terms and conditions for approval of the project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries.[6] These comments supported many of the mitigation measures recommended in that draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM's approval of this project. This is especially important given the DEIS only states that "the lessee shall implement a gear loss and damage compensation program consistent with BOEM's draft guidance…" (page H-67). Furthermore, there is reference in Appendix H that Ørsted's corporate policy and procedure will be implemented to compensate for any commercial/recreational fishing entities gear loss, however, this policy is not hyperlinked or provided.

Appendix H includes the analyzed potential mitigation and monitoring measures; however, it is unclear which of these measures are likely to be required by BOEM as opposed to optional. Assumptions about which mitigation measures are required will affect the impact determinations and overall conclusions in the FEIS. For example, time of year restrictions on construction can be used to protect

[5] For example, two reports on potential impacts of offshore wind energy development on the Cold Pool are available at the following links: https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf; https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf

[6] Available at https://www.mafmc.org/correspondence.

sensitive spawning and fishing periods. This is being proposed for the summer flounder HAPC (page H-10), which the MAFMC designated as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations. In addition, "time-of-year in-water restrictions to the extent feasible to avoid or minimize impacts to Atlantic sturgeon" are included as mitigation measures (page H-10), though it is not clear what type of monitoring and minimization plans will be put in place. The Councils are supportive of time of year restrictions to reduce potential impacts to sensitive life stages of fishery species, to reduce impacts to fisheries, and to avoid impacts to submerged aquatic vegetation and other structured habitats throughout the project area and cable route. However, further detail should be provided in the FEIS on how this would be done and what exactly these measures would achieve. We recommend working with NOAA Fisheries on impact determinations and identification of sensitive habitats and fishing periods to avoid as ways to mitigate impact.

The DEIS states that "burial of the proposed SRWEC would typically target a depth of 3 to 7 ft… BOEM guidance is that all static cables be buried at the depth of 6 ft below the seabed where technically feasible" (page 2-15). The Councils have not endorsed a specific burial depth, but rather have recommended depths that are adequate "to reduce conflicts with other ocean uses, including fishing operations and fishery surveys, and to minimize effects of heat and electromagnetic field emissions" (from the BOEM Draft Fisheries Mitigation Guidance). Assuming a depth of 6 feet is sufficient to address these objectives, we recommend the FEIS include this target burial depth as the minimum end of the range.

The Councils are also concerned with the scour protection measures included within the DEIS (e.g., rock placement, mattress protection, sandbags, and stone bags). Per the Council's offshore wind energy policy, we recommend that if scour protection or cable armoring is needed, the materials should be selected based on value to commercial and recreational fish species. Natural materials, or materials that mimic natural habitats, should be used whenever possible. These materials should not be obtained from existing marine habitats and must not be toxic.[7]

The DEIS states that the developer will include ways "to mitigate operational impacts on oceanographic high-frequency radars" (page H-51). The fishing industry has proven to be adaptable in the face of change; however, more deliberate mitigation measures that support vessel radar upgrades could minimize impacts to fishermen and others navigating through and around the project area. An adaptation fund is included within the mitigation measures identified in the Empire Wind DEIS. We recommend a similar fund for Sunrise Wind to support vessel radar upgrades and training to help minimize impacts to fisheries and others navigating through and around the project area.

Unexploded ordnances (UXOs) can be uncovered during site preparation activities. Exposed UXO presents a significant risk to mariners, especially those towing mobile gear that could bring UXO to the surface. Offshore wind project construction activities can uncover UXOs. We recommend that the

[7] For examples, see: Glarou, M., M. Zrust and J. C. Svendsen (2020). "Using Artificial-Reef Knowledge to Enhance the Ecological Function of Offshore Wind Turbine Foundations: Implications for Fish Abundance and Diversity." Journal of Marine Science and Engineering 8(5). Hermans, A., O. G. Bos and I. Prusina (2020). Nature-Inclusive Design: a catalogue for offshore wind infrastructure. Den Haag, The Netherlands, Wageningen Marine Research: 121p. Lengkeek, W., K. Didderen, M. Teunis, F. Driessen, J. W. P. Coolen, O. G. Bos, S. A. Vergouwen, T. C. Raaijmakers, M. B. de Vries and M. van Koningsveld (2017). "Eco-friendly design of scour protection: potential enhancement of ecological functioning in offshore wind farms. Towards an implementation guide and experimental set-up." (17-001): 87p

terms and conditions specify that developers are responsible for the safe disposal of UXO exposed due to construction activities. Our understanding is that some UXOs might be detected via surveys but are not exposed; in such cases, only mariner notification may be sufficient given disposal may present greater risks. Clear, timely, and repeated communication about UXO locations and any changes in the location or status of UXOs is essential and should not rely only on email notifications.

Appendix H includes mention of a boulder relocation plan that includes 1) identification of active bottom trawl fishing, areas where boulders > 2m in diameter are anticipated to occur, and areas where boulders are expected to be relocated, and 2) identification of methodologies to minimize the number of seafloor obstructions (page H-14). We recommend developing a clear strategy for boulder relocation that is protective of habitats in the area, potentially relocating them to soft bottom directly adjacent to existing hard bottom areas. Mobile gear fishing activity should be considered when planning specific placement options; relocation areas with similar habitat impacts might have higher or lower potential for conflict with trawling and dredging activities. Recreational fishermen often fish on boulder habitats. We recommend that maps post boulder relocation sites be made available to recreational and commercial fishing communities and others.

Conclusion

We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the final EIS for Sunrise Wind. We look forward to working with BOEM to ensure that wind development in our region minimizes impacts on the marine environment and can be developed in a manner that ensures coexistence with our fisheries. Please contact us if you have any questions.

Sincerely,

Thomas A. Nies
Executive Director, New England Fishery Management Council

Dr. Christopher M. Moore
Executive Director, Mid-Atlantic Fishery Management Council

cc: J. Beaty, M. Luisi, W. Townsend