New England Fishery Management Council

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

October 17, 2022

Program Manager
BOEM Office of Renewable Energy Programs
45600 Woodland Road
Sterling, Virginia 20166

Re: Draft Environmental Impact Statement for Revolution Wind Project off Rhode Island

Dear Program Manager,

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 Revolution Wind project off Rhode Island. 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 four 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), planned for June 2023. The FEIS will inform BOEM's decision to approve, approve with modifications, or disapprove the COP, planned for July 2023.

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 Revolution 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. 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 encourage

[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.

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 these policies and adopted the same policy language. 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.

Alternatives to Meet the Purpose and Need

The DEIS includes six alternatives, some of which include sub-alternatives. Alternative A is the no action alternative. Alternatives B-F would all 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 this area.

- Alternative B is the proposed action as described in the COP and includes up to 100 wind turbine generators with a nameplate capacity of 8-12 MW, up to two offshore substations, and up to two export cables co-located in a single corridor.
- Alternative C includes two mutually exclusive and mostly overlapping sub-alternatives to reduce impacts to habitat. Alternative C1 would remove turbine positions that are in or adjacent to known or likely areas of contiguous complex benthic habitat while C2 would remove turbine positions that are in or adjacent to known or likely areas of Atlantic cod spawning.
- Alternative D includes three sub-alternatives, not mutually exclusive, that would remove certain turbine locations to reduce space-use conflicts, including with fisheries. When combined, Alternatives D1-D3 would remove the outermost portions of the project area that would then allow for either 4 nm transit lanes or additional space for the Buzzards Bay Traffic Lane.
- Alternative E includes two sub-alternatives to reduce visual impacts. Alternative E1 would allow up to 64 turbines and Alternative E2 would allow up to 81 turbines.
- Alternative F would require a 14 MW wind turbine generator, which is higher than the range proposed in the COP (8-12 MW). This would reduce the number of wind turbines necessary to meet the existing power purchase agreements (i.e., 704 MW) to 56 (i.e., 51 plus 5 spare locations for siting flexibility).

It is noteworthy that the DEIS includes Alternative F which requires use of 14 MW turbines. This is outside the project design envelope (PDE) proposed in Ørsted's COP. As described below, we support consideration of higher MW turbines as this can reduce the footprint of the project while still generating the same amount of power as a project with lower MW turbines and a larger footprint. However, this alternative creates a disconnect between the DEIS and the COP and could lead to confusion. The COP should be updated to include this turbine size. Also, we are assuming that the Alternative F concept of using larger turbines sufficient to meet existing power purchase agreements can be combined with Alternatives C, D, or E that are focused on which locations to remove to reduce conflicts. If this is not the current intent, we recommend that BOEM consider allowing Alternative F to be combined with other alternatives.

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

The DEIS purpose and need section references the national 30-GW offshore wind energy goal. The section also indicates that biodiversity and ocean co-use should be protected. 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 fisheries, and ocean habitats. BOEM should clearly acknowledge that if these risks cannot be avoided, they should be minimized, mitigated, and compensated for. We are concerned that including the three current power purchase agreements summing to 704 MW as a component of the purpose and need limits BOEM's ability to approve a smaller project than that proposed by the developer. This will limit BOEM's ability to avoid and minimize negative impacts of the project while still meeting the purpose and need. Also, given multiple reasons to consider reducing the number of turbines associated with this project (habitat, space-use conflicts, transit, and visual impacts) we are concerned that the upper size limit for this project is 880 MW, which represents a 25% increase over 704 MW. The large range in potential total operating capacity makes it difficult to estimate and subsequently reduce and/or mitigate impacts effectively.

We appreciate that the DEIS indicates the minimum number of turbines which may be used and provides maps of turbine locations under each alternative. Assuming turbine capacities of 8-14 MW, this allows for calculations of how each alternative may compare to the existing power purchase agreements totaling 704 MW, which we assume is the baseline for evaluating against the purpose and need. It is worth noting that some alternatives can only meet the 704 MW target at larger turbine capacities (i.e., Alternatives C1, C2, and E1). We appreciate the level of detail provided in Alternative D where it is clearly stated that if all sub-options are selected, the purpose and need will still be met. It is unclear, however, what specific combination of Alternatives C-F can be selected to still generate a minimum of 704 MW.

Combining location removals, potentially from more than one alternative, with the range of possible turbine sizes in the PDE quickly becomes confusing. Multiple alternatives include overlapping locations where turbines may be excluded, but the maps for each alternative are presented separately, posing challenges for determining how many wind turbine locations would remain under various combinations of some alternatives. The FEIS should specify the number of turbines and their locations for each alternative and turbine capacity combination. If smaller turbines (e.g., 8 MW) are not realistic for the project, these could be eliminated from the COP and FEIS to simplify the analysis. A map with numbered turbine or substation locations would be useful for considering combinations of multiple alternatives.

We are confused about how the substation locations intersect with modifications that might be made if some combination of Alternatives C-F are selected. The DEIS notes that "Based on the COP and additional feedback from the applicant, BOEM continues to assume no change to the offshore substation locations due to feasibility constraints that would delay the Project to the extent that it would no longer meet the PPA obligations or BOEM's purpose and need as described in Chapter 1.2 of the EIS." It seems illogical to remove turbines from a portion of the lease area, for example to mitigate impacts to Atlantic cod, but then locate the substation in that vicinity regardless. In addition to any impacts of construction at the substation position on cod and structured habitats, additional miles of cabling will be required if the substation is separated from the turbines.

The configuration of the interarray cables and substations is based on using all 100 locations, but other routing approaches might be possible (and more efficient, requiring less cabling) depending on which turbine positions are removed. However, in some cases adjacent turbines cannot be connected without

going outside the maximum work area identified in the COP. Could BOEM require additional surveys and a modification of the work area footprint, if it would facilitate relocation of the substation outside the Alternative C1/C2 exclusion zone?

Recommendations for Preferred Alternatives

We support the **habitat impact minimization alternative (Alternative C)** given the potential for micrositing or removal of turbine locations to meet the 704 MW power purchase agreements. This would mean only 64-65 turbines would be used, not the full 100 turbines proposed. It is unclear, however, which turbine size this alternative is based on. Alternatives C1 and C2 combined will meet the PPAs if a 14 MW turbine is used (Alternative F). The most robust evidence for cod spawning activity is within the westernmost portion of the C1 and C2 exclusion zones, west of one of the offshore substations. If either Alternative C1 or Alternative C2 cannot be adopted in full, we suggest prioritizing removal of these locations. Figure K-1 in Appendix K shows sub-areas considered during development of Alternative C, overlaid on substrate data; this is a useful figure that should be referred to throughout the FEIS and in future presentations. Area 1 is the region where cod spawning activity is well documented. Additional surveys throughout these four areas, especially in sub-areas 3a and 3b, would help elucidate presence and absence of contiguous complex habitat.

We also support **no surface occupancy in 1+ outermost portion of project area (Alternative D)** to allow transit lane of ~4 nm. This alternative proposes fewer turbine locations (78-93) based on the maximum capacity identified in the PDE of 880 MW. Across all alternatives, the FEIS should assume the same turbine capacity and project power capacity to be able to evaluate and compare the likely impacts.

Overall, in recognition of the wide range of adverse impacts on fisheries, fishery species, and habitats across all action alternatives as described in the DEIS, we recommend approval of a combination of Alternatives C-F to minimize the footprint of the project and therefore reduce the magnitude of adverse impacts. If the full extent of these alternatives cannot be combined, we support approval of Alternatives C, D, and F prior to consideration of Alternative E as visual impacts are outside the realm of the mission of the Councils.

Affected Environment and Impacts Analysis

It is important to conduct NEPA impacts analysis based on specific turbine sizes considered under each alternative. 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.

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.

We appreciate that Section 3.9 lists not only the average annual ex-vessel value for many important fisheries in this region, but also includes the peak annual revenue over a 10-year time period. Fisheries revenues can fluctuate for a variety of reasons; therefore, an average value may not always accurately describe the economic value of the fishery.

We did not find estimates of impacts to private recreational anglers in the DEIS, only for-hire recreational fishing. The FEIS should estimate impacts to this user group.

In terms of habitat impacts, the Councils are concerned about the impacts of boulder removals required for cable installation, especially when done via plow. 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.

In terms of cumulative effects, the DEIS considers future offshore wind energy activities in other lease areas as part of future baseline conditions against which the impacts of this project are compared (Appendix 3, Table E3-1). As we understand it, the DEIS has two baseline conditions, one with other wind projects and one without. The alternatives should be compared against both sets of conditions in a consistent way.

Mitigation, Terms and Conditions

Time of year restrictions should be considered to reduce impacts to cod spawning. The DEIS suggests that a glider may be used to detect cod spawning aggregations by listening for cod grunts. This alone is not a protective measure. The detection range of gliders is short, on the order of hundreds of meters, so if cod do not coincide with the glider path in space and time, their presence may be missed. In addition, 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 interrupted the development of cod spawning aggregations; it is reasonable to expect construction activities may do so as well.

We have been tracking communications from the Southern New England developers related to unexploded ordnance (UXO) 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. While UXO is a known ongoing risk that mariners are already aware of, offshore wind construction activities are uncovering several devices. We recommend that the terms and conditions specify that developers are responsible for the disposal of UXO unearthed due to construction activities. Clear, timely, and repeated communication about UXO locations prior to removal is essential, beyond the weekly email mariner updates.

When boulders are relocated with grabs (as opposed to pushed out of the way with plows), they will be placed elsewhere within the lease area. 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. We also recommend using grabs to relocate boulders whenever possible, vs. relying on plowing. The COP assumes that a boulder plow could be used in all areas of higher boulder concentrations, conservatively estimated at up to 80% of the entire interarray cable network. Plowing will have a much larger impact on benthic habitats as compared to grabs. Recreational fishermen often set gear on boulder habitats. We recommend that habitat maps post boulder relocation be made available to the recreational and commercial fishing communities and others.

We strongly support all efforts to avoid impacts to SAV and other structured habitats along the cable route, as recommended in the Council policies. The New England Council has designated inshore areas from the coastline to 20 meters depth as habitat areas of particular concern (HAPC) for juvenile Atlantic cod. Structurally complex habitats, including eelgrass, mixed sand and gravel, and rocky habitats (gravel pavements, cobble, and boulder) with and without attached macroalgae and emergent epifauna, are essential habitats for these fish. In inshore waters, young-of-the-year juveniles prefer gravel and cobble habitats and eelgrass beds after settlement, but in the absence of predators also utilize adjacent un-vegetated sandy habitats for feeding. The New England Council recently recommended an HAPC for cod spawning habitat and complex habitats. The designation overlaps the Revolution Wind lease area and other Southern New England lease areas and is pending approval by NOAA Fisheries. The Mid-Atlantic Council has designated all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, as HAPC for summer flounder. In defining this HAPC, the Mid-Atlantic Council also noted that if native species of SAV are eliminated, then exotic species should be protected because of functional value; however, all efforts should be made to restore native species. SAV also provides important habitat for many other species.

The recommendations outlined in our offshore wind energy policies, referenced above, should be reflected as terms and conditions for approval of the Revolution Wind project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries.[3] We support 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 Revolution Wind. For example, the project design envelope for Revolution Wind includes burial depths of 4 to 6 feet for inter-array and substation interconnection cables. BOEM's draft fisheries mitigation guidelines recommend a minimum cable burial depth of 6 feet. Although the Councils have not endorsed a specific cable burial depth to minimize impacts to fisheries, we strongly support the draft guidance recommending a minimum burial depth of 6 feet. We recommend that BOEM not approve any cable burial depths of less than 6 feet for Revolution Wind or any other wind projects.

Conclusion

We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the final EIS for Revolution Wind. We look forward to working with BOEM to ensure that wind development in our region minimizes impacts on the marine environment

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

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

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