

CORRESPONDENCE

February 21, 2023

Comments Re: New England Wind DEIS; Docket No. BOEM-2022-0070-0001

General: BOEM's release of the New England Wind DEIS on December 19, 2022, right before the Christmas holidays, and simultaneously with the Empire Wind DEIS comment period,¹ Sunrise Wind DEIS comment period,² Coastal Virginia Offshore Wind DEIS comment period,³ the state's RFI for a Regional Administrator for fisheries compensation comment period, two 3- 5 day Mid Atlantic Fishery Management Council meetings,⁴ and a 3 day New England Fishery Management Council meeting⁵ seems to be designed to prevent meaningful participation of the commercial fishing industry in the BOEM process for all of these projects, including New England Wind. The commercial fishing industry does not have an army of staff, as does BOEM, to exclusively focus on each DEIS. Additionally, commenting on offshore wind is not our sole job description. BOEM is fully aware of the dates of the Fishery Management Council meetings, as it attends many of them, including those which occurred during the New England Wind comment period. Meeting fatigue, combined with the fact that there are only so many hours in a day to attempt to read through the thousands of pages of BOEM DEISs and associated documents makes full comments on each DEIS impossible. Therefore, these comments will be significantly abbreviated compared to comments that would be prepared if BOEM allowed more time for comment and/or more spacing between DEIS releases. **As the public stakeholders with the most to lose from offshore wind, we request that BOEM extend the public comment period for New England Wind and well as all the other proposed Project DEISs to allow for true public participation in the BOEM process.**

Additionally, we have noticed that not all DEIS documents are uniform in layout. Newer DEIS documents in fact seem to be shorter and less detailed than previous DEIS documents that we have reviewed. This is concerning given the scope and pace by which BOEM is moving offshore wind development in our region. The documents lack a standalone and/or detailed cumulative impacts analysis. Impacts are generalized, very rarely quantified, and those that are quantified are quantified in a general and not specific manner. This makes detailed and specific comment, or weighing of alternatives, impossible. BOEM does not provide enough detailed information to differentiate between alternatives and associated impact producing factors, leading essentially to conclusions that all impacts are the generally the same. BOEM makes conclusions with no analysis to support its conclusions. Much of the DEIS documents seem to be taken from the COP and only utilize developer generated analysis, rather than incorporating analysis conducted by independent entities. **We therefore request that BOEM**

¹ See <https://www.boem.gov/renewable-energy/state-activities/empire-wind>.

² See <https://www.boem.gov/renewable-energy/state-activities/sunrise-wind>.

³ See <https://www.boem.gov/renewable-energy/state-activities/CVOW-C>.

⁴ See <https://www.mafmc.org/briefing/december-2022> and <https://www.mafmc.org/briefing/february-2023>.

⁵ See <https://www.nefmc.org/calendar/january-2023-council-meeting>.

describe in detail how it conducts DEIS analysis, who conducts the DEIS drafting whether BOEM or a third party contractor, if engaging a third party contractor how and with whom that engagement is conducted, what expertise in each field of particularly navigation/maritime safety/fisheries science/fisheries economic analysis/radar/marine mammal science is possessed by the entities and individuals conducting the review by the entity preparing the DEIS, what documents are primarily utilized in DEIS development/analysis, and how BOEM arrives at its impact conclusions.

The New England Wind DEIS is so short and poorly executed that it contains a table of “Impacts by Action Alternative Resource Affected With No Mitigation Measures” that does not even compare these impacts against a No Action Alternative, making a quick comparison of each resource affected by each Alternative impossible. This is in contrast to all other DEIS documents we have reviewed. It is clear that speed, and not comprehensive review, is the goal of this DEIS.

Confusion in projects: The various changes that this lease has undergone have not been clearly articulated by BOEM, and also in general make the projects hard to follow. BOEM’s webpage entitles the area “New England Wind (formerly Vineyard Wind South), with a picture depicting the area as one lease block.⁶ However, the lease is now split into the Park City Wind and Commonwealth Wind projects, per the COP, with Park City Wind located adjacent to Vineyard Wind 1 and developed as Phase 1 and Commonwealth Wind being located below Park City Wind as Phase 2.⁷ A chart of this delineation is not found on BOEM’s website. BOEM’s website says that the DEIS is for “New England Wind”, which would encompass both projects.⁸ The Regulations.gov website entitles the docket “Environmental Impact Statements; Availability, etc.: Park City Wind, LLC’s Proposed Wind Energy Facility Offshore Massachusetts”.⁹ The DEIS states that it contains analysis for both projects, both Park City Wind and Commonwealth Wind, as Park City Wind LLC is the COP applicant, and continues to refer to the project as New England Wind.¹⁰ BOEM needs to do a better job of terminology, clear cut project delineation, and chart depiction of leases and projects, as the developers continue to change names/lease assignments/ownership at a rapid pace and this makes public participation even more difficult when delineations are muddled. **Please clarify the lease assignments, ownership, and projects, analyzing each project individually and by name on all BOEM documents and websites.**

No finalized proposed Project boundary/potential future lease reassignments: BOEM’s own website states that “On June 28, 2021, BOEM approved a partial assignment of the northernmost 65,296 acres of Lease OCS-A 0501 from Vineyard Wind, LLC to Vineyard Wind 1, LLC. The assigned lease under Vineyard Wind 1, LLC continues to be designated Lease OCS-A 0501. Vineyard Wind, LLC retained the remaining 101,590 acres, which are designated Lease OCS-A 0534 for this New England Wind Project. Except for the description of the leased area, which now reflects the two different lease areas, the terms, conditions, and stipulations of the two leases, including the lease effective date of April 1, 2015, remain the same. On December 14, 2021, BOEM approved the assignment of Lease OCS-A 0534 from Vineyard Wind, LLC to Park City Wind LLC. Park City Wind LLC has the exclusive right to submit a COP for activities within Lease OCS-A 0534. The majority of the New England Wind project is proposed within

⁶ See <https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south>.

⁷ See https://www.boem.gov/sites/default/files/documents/renewable-energy/NE%20Wind%20COP%20Volume%20I%20Text%20June%202022_PUBLIC.pdf.

⁸ See <https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south>.

⁹ See <https://www.regulations.gov/document/BOEM-2022-0070-0001>.

¹⁰ DEIS, p. ES-1.

Lease OCS-A 0534, with a small portion of the area within Lease OCS-A 0501 also identified for potential development; however, any development of the area within Lease OCS-A 0501 would require an additional (future) lease assignment.”¹¹

Now at the DEIS stage, the project boundaries are still uncertain.¹² The developer/BOEM cannot differentiate which part of the lease will be Phase 1 or Phase 2 of the proposed Project, much less the boundary between Vineyard Wind 1 and New England Wind. This is unacceptable. BOEM cannot conduct analysis on a project that does not have finalized boundaries. The DEIS states that “A small portion of the area covered by Lease Area OCS-A 0501 not used for development of the Vineyard Wind 1 Project (Vineyard Wind 1) may also be assigned to the applicant and developed as part of the proposed Project (i.e., the New England Wind Project).” BOEM cannot approve project that is still in the prospective stages of siting. Either the lease area/proposed Project area has been assigned or it has not. BOEM should not even be conducting a COP review if it has not first established the boundaries of the proposed Project. BOE cannot approve a Project that would rely on future lease reassignments *after* the Project was approved. It is incredulous that BOEM would even consider this situation. Furthermore, the Vineyard Wind 1 project is under current litigation. **BOEM cannot analyze alternatives that would require lease reassignments that do not yet exist. BOEM cannot continue a make it up as you go approach to offshore wind leasing and COP review- review order and definitive lease boundaries are a must PRIOR to DEIS release. BOEM must finalize the actual project boundaries, what on what lease assignments the proposed project would be located, finalize any potential necessary lease reassignments, and release those finalized boundaries in a future supplemental DEIS. BOEM cannot move forward on Project review when it has not finalized the boundaries of the proposed Project. This is especially true when the lease portion that would be potentially be reassigned to New England Wind would be coming from the Vineyard Wind 1 lease/Project which is subject to current litigation.**

Purpose and Need: As we have stated numerous times before and here again, BOEM cannot make its review dependent on speculative power purchase agreements signed prior to COP review with state utilities and state renewable energy goals as a limiting factor affecting its NEPA and OSCLA review requirements. BOEM habitually excludes Alternatives from review because it would not allow developers to meet these “contractual” agreements, which only serves to make BOEM a party to a speculative contract. BOEM is even now restricting its analysis based on ongoing contractual negotiations between developers and states, essentially making BOEM an active party to ongoing contracts and agreements. For example, BOEM rejected a request from the RI CRMC to analyze an alternative requiring the largest turbines available in order to minimize the number of Project foundations because it “would not allow the developer to satisfy contractual offtake obligations that it is currently pursuing through upcoming state solicitation and ongoing negotiations”.¹³

Therefore, in practice, the developers can automatically guarantee the outcome/approval of their project via BOEM’s NEPA review process simply by generating speculative power purchase agreements, or even engaging in contract negotiations at the same time its COP is being reviewed. The

¹¹ See “Leasing History” at <https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south>, emphasis ours.

¹² See Figure 1.1-2 Proposed Project overview, DEIS p. 1-4 for example.

¹³ DEIS p. 2-36, emphasis ours.

developers therefore determine a US federal process. They do not apply for a permit; they create a permit. **This must be disallowed and any previous approvals based on such reasoning overturned.**

Additionally, rather than comply with its OSCLA duties which state that the Secretary “shall ensure”, among other things, “prevention of interference with reasonable uses” such as commercial fishing when conducting all manner of offshore wind leasing, BOEM has instead substituted “promoting ocean co-use” as its own requirement. This is not the same. “Promoting ocean co-use” is not the same as “shall ensure prevention of interference with reasonable uses.” BOEM has taken a simple construct of the English language and changed it to something entirely different. BOEM does not get to dictate its own scope of authority or change the parameters of its own authority; only Congress can do that. BOEM attributes the “goals of the federal agencies to deploy 30 gigawatts [GW] of offshore wind energy capacity in the United States by 2030 while...promoting ocean co use” in place of the actual legal OSCLA requirements to a White House Executive Order. An Executive Order cannot overrule Congressional legislation. **As such, BOEM’s assumptions in the Purpose and Need section of the DEIS is faulty at its core, and therefore all resulting analysis is faulty.**

BOEM states that it will make its determination on the proposed Project “after weighing the factors in subsection 8(p)(4) of OSCLA that are applicable to plan decisions and in consideration of the above goals”. OSCLA says nothing about weighing. It says “shall ensure” the factors listed, not in consideration of the developers or state’s goals or contractual “obligations”, but in the absolute. BOEM shall ensure prevention of interference with reasonable uses. BOEM shall ensure safety. All these obligations that BOEM “shall ensure” are applicable to the plan decisions. That is the point. BOEM does not get to decide which ones are and which ones aren’t. The law is supposed to constrain and set parameters on BOEM decision making, giving it limited and not unlimited authority. This is the entire idea of the law. BOEM has the authority to lease for offshore wind, subject to constraints. These legal constraints override Executive Order policy statements, developer contract “obligations” and full buildout goals, and state energy goals.

Alternatives: BOEM continues to conflate the No Action Alternative with a Cumulative Impacts Analysis. This makes comparison of No Action with the Cumulative Impacts Analysis impossible as a practical matter, and the document does not contain any charts, tables, or methodology by which a standalone Cumulative Impacts Analysis was conducted. The No Action Alternative defines “other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities”¹⁴ as No Action. This is not a No Action Alternative. This is a Cumulative Impacts Alternative. BOEM cannot create a “baseline” of cumulative impacts. Cumulative impacts are *future foreseeable* impacts, not current baselines.

The document even states this: “The continuation of all other existing and reasonably foreseeable future activities described in Appendix E, Planned Activities Scenario, without the Proposed Action, serves as the baseline for the evaluation of cumulative impacts.”¹⁵ A true No Action Alternative would contain only existing permitted projects- Vineyard Wind 1 and South Fork Wind Farm- in its analysis. A Cumulative Impacts Alternative would detail all the planned and future foreseeable BOEM actions such as those potential future projects detailed in Appendix E. By equating the two, BOEM serves to downgrade the impacts produced by the proposed Project of New England Wind. **This is a**

¹⁴ DEIS, p. ES-11.

¹⁵ DEIS, p. ES-11.

corruption of NEPA and must be rewritten and all alternatives re-analyzed, with standalone No Action and Cumulative Impacts Alternatives.

BOEM has also not considered a reasonable range of Alternatives per NEPA. It has merely analyzed only those Alternatives that meet developer contracts and goals of full buildout, rather than considering prevention of interference with reasonable uses of the ocean or safety, as required under the Outer Continental Shelf Lands Act. BOEM has only analyzed a “No Action Alternative” that is not a true No Action Alternative (discussed above), the Proposed Action, and a “Habitat Impact Minimization Alternative” that is merely a discussion of two different export cable routes. No differing Project components or other Alternatives were analyzed, primarily because they did not meet the goals of the developer or were determined by “BOEM’s technical experts” to be “technically infeasible” or “economically infeasible”. **We request that BOEM explain which technical experts make these determinations, the criteria or thresholds for determining “infeasibility”, where BOEM sources its information about “infeasibility”, and the process for assessing feasibility vs infeasibility.**

As financial troubles with the New England Wind project have resulted in the developer claiming that current power purchase agreements are infeasible, as recently as a month ago and after the DEIS was released, and with the developer now planning on “go[ing] to court in Massachusetts pursuing its claim to walk away from the agreements”,¹⁶ BOEM can no longer rely on economic “feasibility” as a measure for approving or disapproving Alternatives or for rejecting Alternatives for analysis, unless by that same reasoning it is prepared to disapprove the entire project. **We request that BOEM remove all “feasibility” rationale from the DEIS review, as well as conduct a supplemental EIS to analyze the Alternatives Considered but Not Analyzed in Detail which were previously rejected for not meeting BOEM “feasibility” or developer power purchase contractual obligations. Or, in the converse, we request that BOEM use its own “feasibility” standard to reject the proposed Project entirely.**

This particularly applies to Alternative 4, the Transit Lane Alternative that was rejected by BOEM and is discussed on p. 2-36 of the DEIS as an Alternative Considered but Not Analyzed in Detail. BOEM maintains that this Alternative was negated by the developer’s 1x1 nm layout that was recommended by the USCG MARIPARS, and because “wider routes could make the proposed Project economically infeasible”. **Again, we do not know what metrics BOEM has used to support this statement; please publicly disclose those metrics.**

The fact is that the developer committed to a Transit Lane Alternative through this lease area even while also committing to a 1x1 nm layout in this section of the lease and a commitment to work with other developers to establish the 1x1 nm spacing as uniform across the MA WEA. Therefore, this commitment should stand; the developer committed to this Transit lane Alternative while at the same time committing to the 1x1 nm layout. We have attached with this letter from Vineyard Wind to RI CRMC, with BOEM copied, as part of our comment here. Part of that letter is reproduced below:

“Vineyard Wind’s Commitments to Rhode Island Fishermen... Vineyard Wind will orient turbines in the remainder of the lease area in rows in an east-west direction with 1 nm separation between the rows. Vineyard Wind is also committed to working with adjacent lease holders so that, to the greatest degree practical, turbine rows would line up and continue across lease boundaries. We are already in communication with the leaseholder to the west for this purpose (the lease area to the east is not yet leased, but we will establish communication upon lease award, which is expected in December

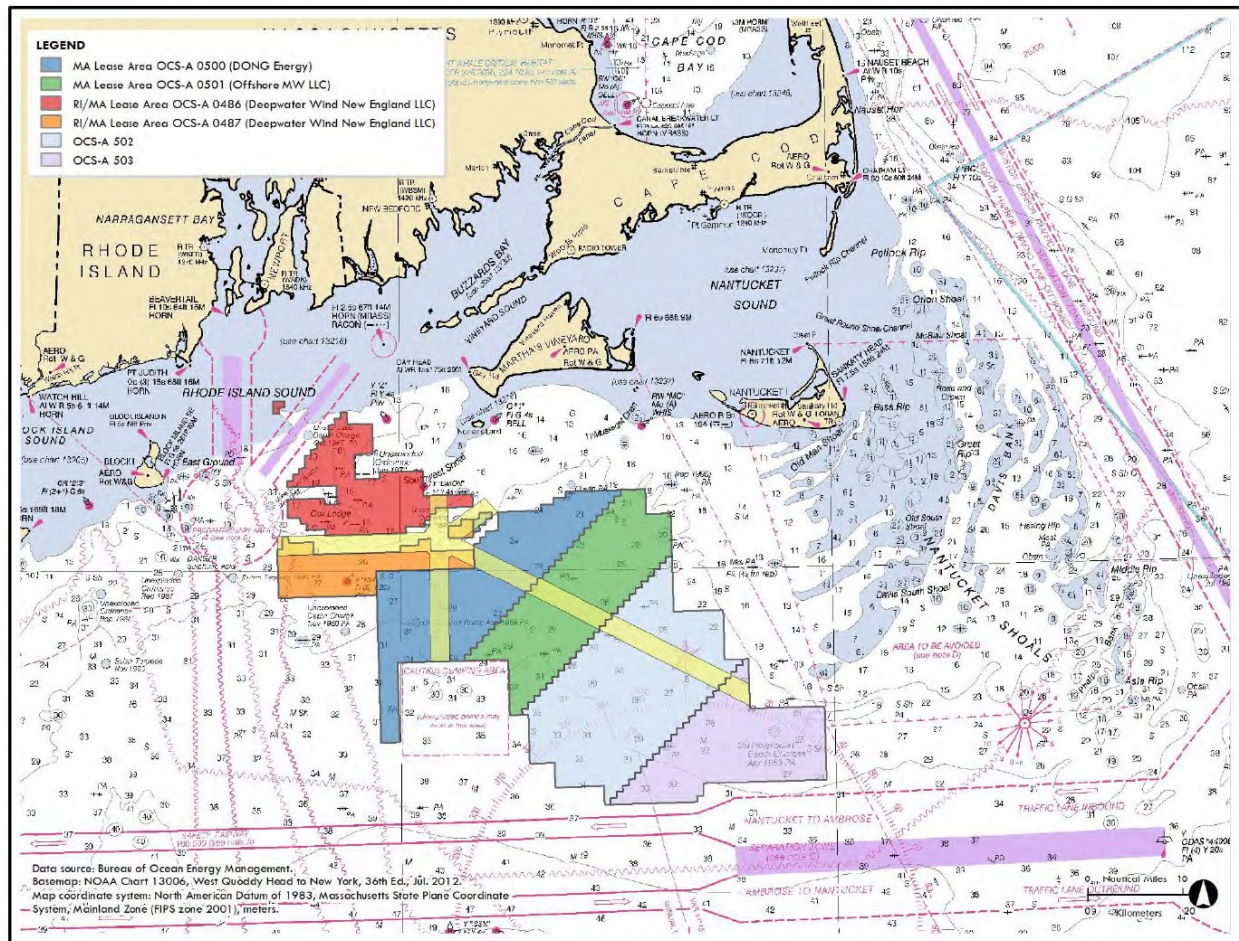
¹⁶ See <https://maritime-executive.com/article/commonwealth-wind-appeals-dpu-approval-of-power-agreements>.

2018).... Vineyard Wind will adopt the 2 nm wide “Consensus Transit Corridor Plan” that was developed through discussions among fishing stakeholders and state agencies, and presented during the FWG Meeting, and again at the CRMC Meeting; this transit lane is shown in Attachment C. Both federal and state agencies worked to synthesize input from fishing stakeholders to arrive at this layout, which represents a compromise of the various desired transit directions and corridor widths to/from priority areas identified by various fishing sectors and ports.”

We have copied the Attachment C referenced on the following page. BOEM claims that the 1x1 nm spacing is wide enough for safe transit. We disagree, particularly as regards the impacts of radar interference. However, BOEM continues to ignore the fact, even if 1x1nm spacing were safe, that the majority of transit through the lease areas is in a Northwest-Southeast direction, as portrayed through both the “Consensus Transit Corridor Plan” on the following page and the DEIS’ own Figure 3.9-5 “All Vessel Monitoring Service Fisheries in Rhode Island/Massachusetts Lease Areas, Transiting” on page 3.9-14 of the DEIS,¹⁷ and the turbine spacing in that direction is NOT 1x1 nm. In that direction, turbine spacing is less than 1x1 nm. Therefore, BOEM cannot argue that there is 1x1 nm spacing in the direction of transit. A transit lane is necessary.

¹⁷ The entity drafting the DEIS incorrectly refers to VMS as “Vessel Monitoring Service”. The correct term is “Vessel Monitoring System”. If the drafter of the DEIS cannot get this simple term correct we do not have confidence that they can conduct an actual analysis.

Attachment C – Consensus Transit Corridor Plan



The developer has not just committed to RI fishermen to incorporate a transit lane along with a 1x1 nm layout via the attached letter to RI CRMC; it also committed to the fishing industry at large to incorporate a transit lane through its lease. We have attached a letter from the developer to RODA to this effect. BOEM, due to these commitments by developers and collaborative efforts in the RODA Transit Lane Workshops,¹⁸ leased the adjacent leases to the proposed Project with the stipulations of continuing these proposed transit lanes in its Final Sale Notice on those leases¹⁹ as well as contained in its “Supplemental Information for Bidders Potential Vessel Transit Corridors” for those leases.²⁰ While these were not mandatory, the developers of the current proposed Project committed to establishing these transit lanes in addition to a 1x1 nm layout, a commitment if which BOEM is aware. As the major transit direction of NW/SE through the lease area does not even amount to 1 mile wide between

¹⁸ See [Northeast Wind Energy Area Transit Lane Development - Responsible Offshore Development Alliance \(rodafisheries.org\)](https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/MA-FSN.pdf).

¹⁹ See <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/MA-FSN.pdf>, “

²⁰ See <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/Vessel-Transit-Corridor-Supplemental-Information-for-Bidders-ATLW-4.pdf>,

turbines, it is not unreasonable to analyze a Transit Lane Alternative, particularly given the developer commitment to implement such a transit lane.

We therefore request that BOEM analyze the Transit Lane Alternative as committed by the developer and release this analysis in a supplemental DEIS.

As we have commented over the years many times on many of the same issues raised in this DEIS and the BOEM process, all of which have gone unaddressed, we hereby incorporate all our previous comments to BOEM here by reference. These include, but are not limited to, radar interference comments and concerns, commercial fishing interference, prevention of interference with commercial fishing as a reasonable use of the ocean, safety and navigational concerns, lack of USCG analysis on radar interference on its own vessels and subsequent impacts on search and rescue capabilities, HF radar interference and impacts on USCG search and rescue capabilities, lack of any radar analysis in the USCG MARIPARS which BOEM relies on for navigational analysis in the DEIS, impacts of cables, impacts of the project on the environment and particularly on commercially harvested species, assumptions of species condition due to alleged climate change impacts that contradict peer reviewed science, lack of cumulative impacts analysis or addressing of major cumulative impacts on commercial fisheries as a result of BOEM's actions.

Due to the overwhelming amount of BOEM documents out for review at one time, and a physical inability to review in detail all the DEIS documents within the comment periods provided, we again request that BOEM extend the comment period for New England Wind in addition to all the other DEIS projects that were simultaneously out for public comment. Our vessels fish in this area and it is imperative that we maintain safety and access, as well as healthy environmental conditions for our target stocks. As it stands, we can only support No Action.

Sincerely,

Meghan Lapp
Fisheries Liaison
Seafreeze Shoreside, Seafreeze Ltd.

VINEYARD WIND

VIA Electronic Mail and FedEx

November 9, 2018

Grover J. Fugate
Executive Director
Rhode Island Coastal Resources Management Council
Oliver H. Stedman Government Center
4808 Tower Hill Road, Suite 3
Wakefield, RI 02879-1900

Re: Vineyard Wind – CRMC File No. 2018-04-055

Dear Mr. Fugate:

As we discussed at our October 9, 2018 meeting with you and the Coastal Resources Management Council (“CRMC”) staff, and as a follow-up to our November 1, 2018 meeting (“November 1 Meeting”) with CRMC, the Governor’s Office, BOEM, and others, Vineyard Wind is submitting this letter and the attached information regarding Vineyard Wind’s ability to accommodate the fishing industry’s request that turbines be aligned in rows going in an east-west direction with 1 nautical mile (“nm”) separation distances between turbine rows. We also include herein the alternative layout discussed at the November 1 Meeting and included in our October 22, 2018 Construction and Operation Plan (“COP”) submission that reduces the area of the Wind Development Area (“WDA”) where turbines cannot be aligned in an east-west direction and which provides east-west fishing lanes along the southern portion of the WDA (the “COP Appendix III-R Alternative” shown in Attachment A).

As we also discussed at the November 1 Meeting, Vineyard Wind has been exploring the possibility of procuring a turbine model with a larger generation capacity (megawatts), which would decrease the number of required turbine locations and thereby further decrease the area of the WDA that cannot be aligned in an east-west direction. We are pleased to inform you that Vineyard Wind has been able to secure a larger turbine than we had previously anticipated, indeed it is the largest turbine commercially available in the world today. Even though use of this new turbine presents additional risk to the project by using a “first-in-series” turbine model, which has not yet received necessary design certifications, Vineyard Wind commits to employ this new turbine in order to avoid and minimize potential impacts to Rhode Island fishermen. We believe this extraordinary commitment, together with our proposed framework for a compensatory mitigation program, undeniably demonstrates that the project is consistent with the Rhode Island Ocean Special Area Management Plan (“Ocean SAMP”) and furthers Rhode Island’s goals to promote

offshore renewable energy while protecting commercial fisheries from significant adverse impacts.

Our commitment to use the larger turbine reduces the number of turbine locations from 94 to 84 and allows for several turbine layout options to be considered (the “Large Turbine Alternative WDA”). Attachment B provides three proposed layout options for the Large Turbine Alternative WDA. The locations depicted for each option are the planned and intended locations that we fully expect to use barring any unforeseen issues which are beyond our control. We do note, however, that in the unlikely event Vineyard Wind encounters unexpected surface or subsurface issues at a location, a turbine could be moved to an alternate location where required geological data already exists, but would still be located in the project envelope of the COP. Should this be necessary, the new turbine location would be chosen so as to be contiguous with the main turbine array, so as not to disrupt the planned east-west orientation of future turbines.

All of the Large Turbine Alternative WDA options further reduce the size of the WDA where turbines cannot be aligned in an east-west direction from the COP Appendix III-R Alternative. Each option may have certain advantages over others for minimizing potential impacts to commercial fishermen. From a technical perspective, all of the options are feasible for Vineyard Wind. Therefore, we are willing to adopt the option CRMC deems best aligned to address Rhode Island fishermen needs. As the Bureau of Ocean Energy Management’s (“BOEM”) review process is well underway and its draft environmental impact statement is scheduled to be published for public comment on December 7th, Vineyard Wind intends to withdraw the COP Appendix III-R Alternative as a viable alternative for consideration and instead, propose to BOEM the three Large Turbine Alternative WDA options as viable alternatives and mitigation measures for consideration in its National Environmental Policy Act review and decision on the project.

Table 1 below presents a comparison of each Large Turbine Alternative WDA options to the COP Appendix III-R Alternative, identifying the area of the WDA that cannot be aligned east-west and the percent reduction in the WDA from the originally proposed layout. It also provides a brief description of each option, which are more fully described herein and shown in Attachment B.

Table 1 Comparison of Turbine Layout Options

Turbine Layout Options	Number of Turbine Locations	Not East-West Turbine Area (sq. km)	% Reduction in Non East-West Area Relative to Originally Proposed Layout	Description
Appendix III-R Alternative	94	244	20% (18 sq. nm smaller)	This alternative layout was proposed in the October 22, 2018 COP update Appendix III-R. It provided considerable advantages over other layout options Vineyard Wind considered that require 94 locations to achieve 800 MW. This layout minimizes the area without east-west rows by creating east-west rows on the south edge of the WDA through the elimination of particular locations, resulting in a 20.3% reduction in non-east-west area relative to the originally proposed lay-out. In addition, four turbines would be at seemingly random, isolated locations far to the south of the main turbine area until adopted in a future project layout. This alternative is shown here for comparison purposes. Vineyard Wind is no longer proposing this alternative, as better options are available due to the decision to deploy the largest turbine commercially available.
Large Turbine Alternative WDA Option 1	84	239	22% (19.5 sq. nm smaller)	This option uses the largest turbine commercially available and needs only 84 turbine locations to achieve 800MW. The key advantage of this layout is that it creates 19.5 sq. nm of area for future east-west rows, while also eliminating the three turbine locations furthest to the north. The area to the north of the WDA is a squid “hotspot” and the most heavily transited area by fishing vessels travelling to and from fishing grounds. The main drawback of this option is that, even though it eliminates a considerable area without east-west turbine rows, it is the option with the largest area without east-west turbine rows.
Large Turbine Alternative WDA Option 2	84	232	24% (21.5 sq. nm smaller)	This option uses the largest turbine commercially available and needs only 84 turbine locations to achieve 800MW. The key advantage of this layout is that it has the smallest area without east-west rows. The area without east-west rows is confined to the north, which means that future build out of the remaining lease area to the south will be exclusively comprised of east-west turbine rows.
Large Turbine Alternative WDA Option 3	84	236	23% (20.4 sq. nm smaller)	This option uses the largest turbine commercially available and needs only 84 turbine locations to achieve 800MW. This option is a combination of option 1 and 2. It has the advantage of eliminating the furthest northeast turbine location, i.e. the closest turbine to the squid hotspot that occurs in an arc just south of Martha’s Vineyard and Nantucket. This layout has the second smallest area without east-west turbine rows.

While the Large Turbine Alternative WDA options presented in Attachment B minimize by more than 20% the total area that would not be aligned east-west, under all options only about 6% of the entire, combined Rhode Island/Massachusetts and Massachusetts Wind Energy Areas (“WEA”) would not have east-west rows as requested by the fishermen as a means to minimize impacts from offshore wind to commercial fishing in the region. Therefore, we believe it is appropriate to now consider other forms of mitigation related specifically to the area that would not have east-west rows. To that end, as you are aware, Vineyard Wind is seeking input from fishermen on what they would like to see in a compensatory mitigation program.

At the October 31, 2018 meeting organized by the Responsible Offshore Development Alliance (“RODA”), a number of ideas were suggested, and many were consistent with what Vineyard Wind has heard from fishermen through our own outreach efforts. Vineyard Wind desires to continue to collect input and feedback from fishermen and fishing organizations, CRMC, and other agencies in order to be able to propose a well-designed mitigation program. To this end, we intend to make an additional submission to CRMC that describes Vineyard Wind’s proposed compensatory mitigation program and the economic data upon which it relies. Vineyard Wind has retained an expert fisheries economist to provide an objective evaluation of the best available fisheries economics data.

We ask that this, and our compensatory mitigation proposal, when submitted, be included in the record and, in addition to Vineyard Wind’s COP (as updated and filed with BOEM on October 22, 2018 and also being provided today to CRMC via a share file), be considered in CRMC’s review of the project for consistency with Rhode Island’s enforceable policies set forth in the Ocean SAMP. We also incorporate by reference the information provided in our July 16, 2018 letter responding to CRMC’s three-month status review of the project. The factual information we have submitted for your consideration, as well as the measures proposed herein, demonstrate that the project is consistent with Rhode Island’s enforceable policies.

Vineyard Wind’s Commitments to Rhode Island Fishermen

As we have discussed, realigning the entire project layout in an east-west direction is not a feasible or reasonable alternative because it could not be implemented in a manner that allows Vineyard Wind to achieve the primary purpose of the proposed project, *i.e.*, to deliver 800 MW of power within a specified time and at a competitive price to Massachusetts ratepayers and to advance the interests of Rhode Island, Massachusetts, and the nation in providing new clean sources of energy. Given the technical and legal constraints associated with making any changes to the project at this late stage of the process, Vineyard Wind has spent many months exploring ways to best accommodate Rhode Island fishermen’s desire for an east-west turbine row arrangement within the WDA without putting the entire project at risk. In so doing, we are making six important commitments to fishermen in Rhode Island and elsewhere.

Vineyard Wind will:



1. **Utilize the world’s largest commercially available turbine, a “first-in-series”, which allows 22 turbine locations to be eliminated and significantly reduces the area of the WDA where turbines are not aligned in east-west rows.** Vineyard Wind is proposing several options for how the turbines could be laid out in the Large Turbine Alternative WDA scenario, as shown in Attachment B. Vineyard Wind is willing to adopt any of these options. This decision represents a significant commitment by Vineyard Wind.
2. **Implement a compensatory mitigation program to mitigate potential impacts to commercial fisheries that result from the area of the WDA not being aligned in east-west rows.** The details of the program will be developed with input from fishermen and described in our compensatory mitigation submission. Vineyard Wind anticipates that the program could be comprised of funding that is provided directly to impacted vessels and/or funding that supports community level programs focused on enhancing the safety and profitability of the Rhode Island fishing industry and the well-being of fishermen generally, as fishing will take place among turbines into the future (whether the Vineyard Wind or other projects).¹
3. **Implement a construction impacts mitigation program that mitigates project impacts to individual fishing vessels resulting from the construction of the project.** Details of this program will also be developed with input from fishermen, but we anticipate this program would likely be structured as funding to vessels that would be expected to be impacted because of their inability to operate in a particular area at a particular time due to project construction activities.
4. **Orient all future turbine installations in the remainder of the lease area in east-west rows and include a 1 nm separation distance between each row.** This measure, in combination with the removal of the 22 locations described above, will result in approximately 64 to 66% of our lease area having an east-west row alignment across the full width of the lease area, depending on which turbine layout option is adopted. Vineyard Wind also commits to work with adjacent lease holders to align rows across lease areas to the greatest extent feasible. In fact, we are already in communication with Bay State Wind to this end. We note that, to the best of our knowledge, no other RI/MA lease holder has yet committed to east-west rows with 1 nm wide separation as we are doing here.

¹ Vineyard Wind recognizes that for projects sited in state waters, the Ocean SAMP requires mitigation measures to be negotiated between the Council staff, the FAB, and the project developer, and then approved by the Council. However, because the project is sited in federal waters, Vineyard Wind’s compensatory mitigation program must also address input from stakeholders beyond Rhode Island, a process that began at the October 31, 2018 RODA meeting. We look forward to advancing those initial discussions with CRMC staff and the FAB.

5. **Adopt the 2 nm wide “Consensus Transit Corridor Plan” which has consensus support from Rhode Island fishermen.** This Consensus Corridor Plan (the “Plan”) calls for a 2 nm wide corridor running at a northwest-southeast direction through our lease area, located to the south of the WDA as shown in Attachment C. The Plan was supported by most if not all fishermen, including Rhode Island fishermen, in attendance at the Massachusetts Fisheries Working Group meeting on September 20, 2018 (“FWG Meeting”). The Consensus Corridor Plan was also roundly endorsed by Rhode Island fishermen at the October 11, 2018 meeting organized by CRMC (“CRMC Meeting”). Support for the Plan has also been expressed to us by fisheries representatives and individual fishermen. Aside from fishermen, the Coast Guard has indicated its support of the Plan to BOEM; BOEM has posted the plan on its website so as to advise potential bidders in upcoming lease area auctions; and the Plan is also supported by the Massachusetts Coastal Zone Management (“CZM”) Office. See Attachment E.

As documented in the COP, AIS data shows that the large majority of the AIS-equipped vessel navigation in this area is by transiting fishing vessels, most of them travelling in a northwest-southeast direction. While these vessels likely do not have gear deployed while transiting, they are in a real sense “fishing” as many of these fishing vessels are regulated based on the amount of time they spend at sea. As such, the ability to safely and efficiently transit a particular area can be an important factor relative to the effectiveness and profitability of the vessel’s fishing trip. The available tracking data therefore also indicates that the Consensus Corridor Plan is supportive of both traditional transiting and fishing patterns in the region.

Unless a new transit corridor plan is developed that garners the same level of support from fishermen as the current plan, and also allows us to eliminate turbine locations for the purpose of accommodating the east-west row request, Vineyard Wind intends to use the current Consensus Corridor Plan for planning both the current project as well as any future projects.

In addition to the corridors included in the Plan, Vineyard Wind is supportive of an additional, north-south oriented corridor located to the east of our lease area. This north-south corridor is of particular importance to squid vessels operating out of Rhode Island. While this proposed corridor would not pass through our lease area, Vineyard Wind is supportive of the corridor as a matter of general wind industry policy as a means to further support the traditional use of the area by the Rhode Island fishing fleet.

6. **Contribute to regional fisheries studies by providing funds, available expertise, and scientific resources.** Vineyard Wind has been a strong advocate for federal, state, or regional bodies to establish mechanisms to fund and organize fisheries studies to assess the cumulative impacts of multiple offshore wind projects on the fishing industry in Rhode Island and elsewhere, and to inform future project planning by the offshore wind industry generally.

Vineyard Wind's strong commitment to regional fisheries studies is evidenced by our being unique among the RI/MA lease holders in proposing a specific funding mechanism that would provide for on-going funding of such regional and/or long-term studies. Vineyard Wind continues to stand ready to support these studies once a mechanism to fund, design, and organize them is established.

The Project Will Not Have Significant Adverse or Long-term Impacts on Rhode Island Fishermen

In summary, the Vineyard Wind project will not have significant adverse or long-term impacts on Rhode Island commercial fishermen due to the cumulative, positive impacts of the following factors:

- 1) Adoption of the largest commercially available turbine reduces the area of the WDA where turbines cannot be aligned east-west by approximately 22 to 24% depending upon the option chosen, and represents approximately 6% of the total MA/RI areas designated for wind development;
- 2) Regardless of row orientation, fishermen may still fish in any area where the turbines are located;
- 3) Adoption of the Consensus Corridor Plan, which is supported by Rhode Island fishermen, will provide fishing vessels safe and efficient means to transit through the WEAs, thereby reducing the amount of time at sea and any associated costs;
- 4) Vineyard Wind's commitment to compensatory mitigation during the operation of the project, the details of which will be developed in consultation with fishermen; and
- 5) Offshore construction activities will only occupy a specific area for a limited period of time, and therefore will not preclude fishing activities in and around the area for long periods of time. Any residual impacts to fishermen will be mitigated through a construction period compensatory mitigation plan.

We look forward to CRMC's feedback on the information presented in this filing so that we can address any outstanding issues and enable CRMC to reach a consistency determination.

Sincerely,



Erich Stephens
Chief Development Officer



Attachments

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VINEYARD WIND

SUBMISSION TO THE RHODE ISLAND COASTAL RESOURCES MANAGEMENT COUNCIL

November 9, 2018

I. The Primary Purpose of the Project is to Deliver 800 MW of Wind Generation Capacity at a Specified Price and Within a Specified Time

As previously reported to CRMC, Vineyard Wind was the successful bidder in response to the Massachusetts Section 83C Offshore Wind Energy Generation request for proposals, being awarded power purchase agreements totaling 800 MW of wind generation capacity. These long-term contracts with the Massachusetts electric distribution companies (Eversource, National Grid, and Unitil) have been executed and filed with the Massachusetts Department of Public Utilities (“DPU”) for review and approval. Now that the contracts have been executed, Vineyard Wind’s sole project purpose is to fulfill its obligations under the contracts to deliver 800 MW of power at the prices and within the time period specified in those contracts with the electric distribution companies, which together provide most of Massachusetts with its electrical energy. Once operational, Vineyard Wind’s 800 MW project will provide energy equivalent to power more than 15% of the homes in Massachusetts.

On August 1, 2018, the Massachusetts Department of Energy Resources (“DOER”) submitted a letter to the DPU urging approval of Vineyard Wind’s contracts because of the significant benefits the project would generate (*See* Attachment D). Importantly, DOER found that Vineyard Wind’s 800 MW project was superior to other proposals and would result in projected savings to ratepayers of approximately \$1.4 billion over the life of the contracts. In addition, the project assists Massachusetts in meeting its Global Warming Solutions Act goals and provides critically needed diversity to Massachusetts’, and the region’s, energy portfolio. Further, as the largest procurement of offshore wind generation in the U.S., the project creates jobs and spurs economic development.

The project will also benefit Rhode Island. With more than 400 miles of coastline, Rhode Island is particularly vulnerable to the impacts of climate change, which has brought more severe and frequent storms to the region in recent years. The increasing frequency of extreme weather events also poses serious energy and fuel security risks, particularly in light of the region’s dependence on natural gas to meet both electricity and heating needs. For these reasons, the Council expressly supports “the policy of increasing offshore renewable energy production in Rhode Island as a means of mitigating the potential effects of global climate change.” Ocean SAMP § 1150.2(1). Vineyard Wind’s injection of emission free, reliable offshore wind power into the New England grid will enhance the overall reliability of the electricity system, increase resource diversity, and contribute to a more climate resilient energy system.

Some of the key benefits Vineyard Wind's project will deliver to the region's ratepayers include a reduction in greenhouse gas emissions (GHG), lower power prices, and a decrease in demand for natural gas. A 2017 study conducted by Daymark Energy Advisors ("Daymark"), on behalf of Vineyard Wind, shows that our 800 MW project would lead to 588,000 fewer metric tons of carbon emissions annually, \$657 million (NPV 2022 dollars) in Locational Marginal Price benefits for New England ratepayers — other than Massachusetts ratepayers— over 20 years, and a reduction in demand for natural gas by the region's electricity sector of about 22.8 million MMBtu per annum.

The fuel security, system reliability, and price suppression attributes of the project undeniably benefit all of New England. These benefits are perhaps best illustrated by how the project would have performed had it been operational during winter storm Grayson in early 2018, the so-called "bomb cyclone". Another analysis conducted by Daymark study shows that during the 4-day storm event, our project would have displaced 61 million kilowatt hours of oil- and natural gas-fired generation, resulting in savings of over \$31 million for New England ratepayers and emission reductions totaling 67,485 metric tons of carbon dioxide, which is equivalent to removing 14,358 cars from the road for an entire year. Finally, the project also has the potential to create direct economic benefits in Rhode Island, as Vineyard Wind is seeking the opportunity to use Rhode Island ports for staging some components during project construction.

The Vineyard Wind project is also important to realizing Governor Raimondo's commitment to a clean, affordable and reliable energy future, even if the output of the project will serve Massachusetts. As the first utility-scale offshore wind project in the country, the project is already stimulating significant investment interest in southeastern New England, including in Rhode Island businesses and infrastructure. The Vineyard Wind project is a critically important step towards realizing a viable offshore wind industry in the U.S., southern New England in particular, and therefore also furthers Rhode Island's interest in being a hub of this new industry. Moreover, as multiple news outlets have reported, Vineyard Wind's levelized price of 6.5 cents per kilowatt hour, including environmental attributes, is well below analysts' expectations and sets a new record for U.S. offshore wind.² As a result of our project, offshore wind is now competitive with other types of energy generation and assures access to abundant clean energy resources for decades to come. This competitive pricing has shown the way to a U.S. offshore wind industry that is centered in southeastern New England and growing faster and larger than most analysts had predicted. This is yet another reason why the Vineyard Wind project puts Rhode Island in an excellent position for maintaining its leading role in this industry.

² By way of comparison, two Maryland projects contracted at approximately 13 cents per kilowatt hour, the Block Island project was priced at 24.2 cents per kilowatt hour, and the Cape Wind project was priced at 18.5 cents per kilowatt hour.

II. Reorienting the Project Layout in a Complete East-West Configuration with One Nautical Mile Spacing Between Turbine Rows is Not a Reasonable Alternative Because It Cannot Achieve the Project Purpose

In assessing alternative designs to Vineyard Wind’s proposal, it is critically important to understand that Vineyard Wind’s ability to deliver the significant benefits described above, by providing 800 MW of renewable energy at a competitive price, is directly tied to its ability to maintain its qualification for federal investment tax credits (“ITC”). In order to qualify for these tax credits, the value of which are directly passed on to ratepayers, Vineyard Wind must make continuous progress towards completion of the project and adhere to its construction schedule as set forth in COP Volume 1, section 1.5.3; this schedule requires onshore construction to begin in Q4 2019.³ To achieve this schedule, Vineyard Wind must have all necessary permits in hand by Q3 2019 at the latest in order to finalize construction financing. Investors require certainty to reduce risk and therefore will not invest in or lend to a project unless it is fully permitted.

CRMC should also be aware that the long-term contracts with the Massachusetts electric distribution companies contain certain project milestones that Vineyard Wind must meet, which the project schedule takes into account. These include obtaining the necessary permits, closing financing, acquiring any necessary real property, and meeting the guaranteed commercial operation dates, the earliest of which is January 15, 2022. Thus, Vineyard Wind must permit, finance, construct, connect to the grid, and begin to deliver power in less than 38 months.

BOEM’s current permitting schedule calls for a decision on Vineyard Wind’s COP by July 2019, which allows Vineyard Wind to obtain all other state and federal permits, close financing, and begin construction in Q4 2019, thereby maintaining qualification for the ITC. In addition, there are many other processes and instruments being put in place to allow Vineyard Wind to start construction in Q4 2019. These include, but are not limited to, procuring component design, supply and installation contractors, securing necessary vessels and port facilities, financing the project, fabricating necessary components under the direction of the CVA, and maintaining qualification for the ISO New England Forward Capacity Market. In short, any delay in BOEM’s approval process will have a domino effect and will most likely be fatal to the project.

Understanding these constraints, Vineyard Wind has spent significant time and resources examining the possible re-orientation of the project array in an east-west

³ Vineyard Wind has already qualified for the ITC at a level that provides for significant savings to ratepayers. However, in order to maintain this qualification, the project must both show “continuous construction”, as well as complete the project by a date certain. The IRS provides specific definitions as to “continuous construction”. Because of these various requirements, Vineyard Wind must arrange the financing and achieve Financial Close on the project by Q4 2019 in order to give its main contractors a so-called “Notice to Proceed” enabling them to start manufacturing and construction activities needed to finish by the end of 2021.

direction. Our conclusion is that it simply is not possible to do this for both technical and legal reasons, which are further detailed below.

A. Reorienting the Project Array is Not Technically Feasible

Each wind turbine foundation is specifically designed for the subsurface conditions at each planned turbine location using data collected from high resolution geophysical surveys (“HRG Surveys”), *e.g.*, side-scan sonar, bathymetry, magnetometers, and sub-bottom profilers. In addition, bore hole sampling and/or cone penetrometer tests conducted at each turbine location provide critically important information for understanding the soil and subsurface characteristics as well as interpreting the HRG data. Conducting these offshore surveys requires at least three months’ lead time for permitting, followed by at least four to five months of the actual offshore field work for the entire WDA, followed by at least another four to five months to analyze the data and report findings. Only then can the foundation design process begin, which takes approximately 10 to 12 months to complete. In order to fabricate and certify the foundations in time for offshore construction to begin as scheduled in summer 2020, foundation designs must be complete by May 2019. Given the schedule constraints described, Vineyard Wind collected all geological data necessary for foundation designs in Spring/Summer 2018, so that data necessary to design and procure the foundations would be available this Fall. And indeed, this design and procurement is now underway.

Any change in turbine locations would require geological data for that specific location before foundation design could begin. Reorienting the project array in an east-west direction with 1 nm spacing between turbines would cause all but approximately 19 turbines to be relocated to areas not previously surveyed and would place turbines in areas outside the WDA. Moreover, a reorientation of the array would require a redesign of the array cable layout, as all cable strings are carefully planned and balanced to have an equal number of WTGs on each string and to minimize the length of cables (to avoid unsuitable locations and reduce cost and losses). The 1 nm spacing between all turbines would also increase the amount of cabling required, raising additional engineering and cost considerations that would have to be addressed. Vineyard Wind would effectively have to start the project design and permitting process over and resurvey the entire project area, even though it has already spent over seven months (in addition to a reconnaissance survey in 2016) and many millions of dollars collecting and analyzing the data to support the current layout.

While the cost of redoing the HRG and geotechnical surveys is significant, the more important factor is the time required to collect and analyze the data. Vineyard Wind began collecting its data to support the current project layout in April 2018 and finalized the analysis of the data for submission to BOEM on October 22, 2018. Thus, not including the regulatory approval times

discussed below, it takes at least eight to 10 months to collect and analyze the data before foundation design could begin, which, as noted, then takes approximately 10 to 12 months to complete. Given that additional surveys could not begin until at least March 2019 due to weather, regulatory, and logistical constraints, foundation designs would not likely be completed before the end of 2020. The lead times necessary for certification and fabrication would most certainly push the start of construction into third quarter of 2021. With an expected construction period of up to 18 months, this delayed start would make it impossible for Vineyard Wind to meet its guaranteed commercial operation date of January 15, 2022. Moreover, Vineyard Wind would lose its qualification for the ITC thereby affecting the entire pricing structure for the project. For these reasons, reorienting the entire project array in an east-west direction with 1 nm spacing between turbines is not technically feasible to achieve the primary or essential purpose of the proposed project, *i.e.*, deliver 800 MW of generation capacity within a specified time at a specified price.

B. Regulatory Requirements Preclude Vineyard Wind from Reorienting the Project Array to a Complete East-West Orientation Within the Time Available

In considering the feasibility of reorienting the project array, Vineyard Wind also carefully considered the regulatory requirements for obtaining COP approval and, as part of this analysis, Vineyard Wind engaged in detailed consultations with BOEM staff (*i.e.*, the individuals who would be responsible for implementing any changes) regarding the impact to the permitting schedule of relocating even a limited number of turbines.

On the October 25, 2018 call with CRMC, BOEM and others, BOEM confirmed to CRMC that modifying the project layout to a complete east-west orientation would cause the project approval process to be delayed for at least one year because Vineyard Wind would have to submit geophysical data relevant to the design and siting of the turbines, as well as geotechnical data regarding the stratigraphic and geoengineering properties of the bottom sediment, which in turn affects the foundations or anchoring systems of any structure permanently or temporarily attached to the seabed (collectively “G&G Data”). 30 C.F.R. §585.626; BOEM COP Guidelines (2016).⁴ Vineyard Wind believes the regulatory process would be delayed even longer than the one year estimated by BOEM because of the time it would take for

⁴ The Ocean SAMP similarly requires “the results of adequate *in situ* testing, boring, and sampling at each foundation location, to examine all important sediment and rock strata to determine its strength classification, deformation properties, and dynamic characteristics.” Table 11.4. Indeed, the Ocean SAMP expressly requires that “a minimum of one boring shall be taken per turbine planned, and the boring shall be taken within 50 feet of the final location of the turbine.” *Id.* Thus, CRMC clearly recognizes the importance of G&G Data to the siting and approval wind turbine locations.

Vineyard Wind to collect and analyze the necessary data. Based on our current experience with collecting and analyzing the required G&G Data for the site, it would take eight to 10 months to complete the data collection and analyses, and likely longer because the east-west orientation and 1 nm turbine separation locates approximately 16 to some 18 turbines outside the WDA where no data has been collected or analyzed. Also, as BOEM explained to CRMC, it takes 90 to 120 days to obtain approval to conduct the work. Therefore, assuming Vineyard Wind could begin collecting G&G Data in March 2019, it would be eight to 10 months before Vineyard Wind would be in a position to submit the data to BOEM (i.e., Q4 2019 or Q1 2020), which would likely delay a decision on the COP until late 2020 or early 2021 thereby precluding Vineyard Wind from maintaining its qualification for the ITC and delivering power beginning in January 2022.⁵

C. Obtaining A Conditional COP Approval and Phasing (Segmenting) the Project Is Not a Technically Feasible or Reasonable Alternative

On the October 25, 2018 call with BOEM and others, as well as at the November 1 Meeting, CRMC raised the possibility of BOEM allowing Vineyard Wind to collect the additional G&G Data necessary for a complete east-west layout after a decision on the COP was issued. CRMC suggested that a “phased” approach would allow Vineyard Wind to start construction for turbines where G&G Data exists and, after the additional G&G Data is collected, allow construction to proceed on the remaining turbines. Such a “phased” approach is not technically or legally feasible for three important reasons.

First, BOEM explained that while the regulations allow Vineyard Wind to seek a departure from the data requirements, the amount of data that would have to be deferred is significant and there would be several procedural steps that need to be addressed before a departure could be granted. One such example is the need to reopen the Section 106 Programmatic Agreement regarding G&G work, which would take time and delay the current permitting schedule. Perhaps most importantly, BOEM advised CRMC of legal precedent that precludes BOEM from segmenting its NEPA analysis. The

⁵ In November 2017, Vineyard Wind requested a departure from the regulations to allow Vineyard Wind to conduct the turbine and cable specific G&G Data beginning in Spring 2018, after COP submission but in time for BOEM to consider the data for its relevant reviews and consultations before issuing a decision on the COP; BOEM granted this request on January 19, 2018. Vineyard Wind submitted its COP to BOEM in December 2017 and on October 22, 2018 submitted the turbine and cable specific G&G Data and required analyses. Thus, as of October 22, 2018, Vineyard Wind has met the regulatory requirements for data required for COP approval. Vineyard Wind has expended tremendous resources, including tens of millions of dollars, to meet this deadline so that BOEM is in a position to issue a decision on the COP in July 2019. We mention this not because of the expense itself, but to demonstrate the importance of the schedule to the success of the project, and the high priority the company has put on maintaining the schedule in order to deliver a successful project to Massachusetts and the region.

referenced case involved the Cape Wind project where BOEM granted Cape Wind a departure from the regulations that allowed Cape Wind to collect certain geophysical data after lease/COP approval but before construction.⁶ That decision was challenged and ultimately appealed to the U.S. Court of Appeals for the District of Columbia, where the court held that BOEM violated NEPA because “[w]ithout adequate geological surveys, the Bureau cannot ‘ensure that the seafloor [will be] able to support’ wind turbines.” *Public Employees for Environmental Responsibility v. Hopper*, 827 F.3d 1077, 1083 (D.C. Cir. 2016). The D.C. Circuit further stated that “NEPA does not allow agencies to slice and dice proposals in this way.” *Id.*

Second, Vineyard Wind would not be able to close financing on the project with a conditional approval that deferred such a significant amount of the G&G Data to a future unknown date. Investors require permitting certainty to reduce risk. This is why Vineyard Wind has expended significant resources working with multiple federal and state agencies to ensure that it receives all required permits by Q3 2019. If Vineyard Wind cannot close financing, it will not be able to start construction in Q4 2019 and will lose its qualification for the ITC. As already noted, the loss of the ITC would upset the entire pricing structure for the project.

Finally, for technical and engineering reasons the project could not be constructed as CRMC suggests. For one, the project schedule requires on-going construction of each element of the project, not two distinct phases of construction as would be required by CRMC’s suggestion. Such on-going construction is necessary for both commercial reasons, including costs (regarding costs of multiple spread engagement and vessel availability), and schedule and risk management reasons (in order to ensure project is completed on schedule and the fact that on-going construction takes less time total than phased construction). Perhaps most importantly, constructing in phases, as suggested, is not practical for a number of technical reasons such as the need for turbines to have power once they are installed, the need to avoid jacking up vessels in the vicinity of buried cable, the importance of installing foundations before cable, having power available for turbines once installed, and installation of scour protection after installing cable. Breaking the construction into two phases also has the potential to increase environmental and fisheries impacts.

⁶ BOEM’s review of the Cape Wind project began before the current regulations were promulgated and therefore the EIS was issued at the lease stage and supplemented at later stages. Nevertheless, as CRMC proposes here, G&G Data collection was deferred until after COP approval but before construction, which the court held violated NEPA.

III. Vineyard Wind's Commitments to Rhode Island Fishermen

Even though it is not possible to reorient the entire project in an east west direction, Vineyard Wind takes seriously the fishermen's request to orient the turbine rows in an east-west direction as a means to avoid gear conflicts and mitigate the potential impacts of offshore wind generally (not just our project) on the regional fishing industry. Therefore, Vineyard Wind is making six important commitments to Rhode Island fishermen:

1. Vineyard Wind will utilize the largest commercially available turbine, which decreases the number of required turbine locations and thereby results in less area not aligned in an east-west orientation. Vineyard Wind is willing to adopt any of the Large Turbine Alternative WDA options shown in Attachment B. As this is the first turbine of this size to become commercially available, it presents some risk to the project, but it is a risk Vineyard Wind is willing to assume to minimize potential impacts to Rhode Island fishermen.
2. Vineyard Wind is committed to implementing a compensatory mitigation program that mitigates potential impacts to commercial fisheries as a result of a portion of the WDA not having east-west rows. The details of the program will be developed with input from fishermen and fully described in our compensatory mitigation submission. Vineyard Wind anticipates that the program could be comprised of funding that is provided directly to impacted vessels and/or funding that supports community level programs focused on enhancing the safety and profitability of the Rhode Island fishing industry and the well-being of fishermen generally, as fishing will take place among turbines into the future (whether the Vineyard Wind or other projects).
3. Vineyard Wind will implement a construction impacts mitigation program that mitigates project impacts to individual fishing vessels resulting from the construction of the project. Details of this program will also be developed with input from fishermen, but we anticipate this program would likely be structured as funding to vessels that would be expected to be impacted because of their inability to operate in a particular area at a particular time due to project construction activities.
4. Vineyard Wind will orient turbines in the remainder of the lease area in rows in an east-west direction with 1 nm separation between the rows. Vineyard Wind is also committed to working with adjacent lease holders so that, to the greatest degree practical, turbine rows would line up and continue across lease boundaries. We are already in communication with the leaseholder to the west for this purpose (the lease area to the east is not yet leased, but we will establish communication upon lease award, which is expected in December 2018).

5. Vineyard Wind will adopt the 2 nm wide “Consensus Transit Corridor Plan” that was developed through discussions among fishing stakeholders and state agencies, and presented during the FWG Meeting, and again at the CRMC Meeting; this transit lane is shown in Attachment C. Both federal and state agencies worked to synthesize input from fishing stakeholders to arrive at this layout, which represents a compromise of the various desired transit directions and corridor widths to/from priority areas identified by various fishing sectors and ports.

From a navigation safety perspective, this corridor provides options for vessels transiting through the adjacent Massachusetts and Rhode Island lease areas while maintaining a single heading. Scallopers, fixed gear, squid, and whiting/scup fishermen from Massachusetts, New York, and Rhode Island ports all agreed this was a workable compromise at the FWG meeting, and representatives of the Rhode Island fishing industry reiterated support for the transit corridor plan at the CRMC Meeting. As stated in a letter from CZM regarding Vineyard Wind’s Supplemental Draft Environmental Impact Report dated October 5th, 2018, “CZM believes that the working group consensus alternative is a balanced and feasible option that while perhaps optimal to none, is acceptable from a navigational safety perspective and represents a compromise approach to a very difficult issue.” (See Attachment E).

At the FWG Meeting and CRMC Meeting, the U.S. Coast Guard expressed support for these lanes, as did Rhode Island fisheries stakeholders. These meetings resulted in an unprecedented level of agreement among fishermen. For all these reasons, the consensus transit corridor plans that resulted from those discussions will be incorporated into Vineyard Wind’s project. Vineyard Wind also supports adopting a north/south transit lane directly to the east of the WDA to allow passage for fisheries travelling between squid and whiting fishing grounds.

Importantly, because the Consensus Transit Corridor Plan’s 2 nm wide transit corridor crosses the lease area to the south of the WDA, and does not pass through the WDA, Vineyard Wind can use eliminated turbine locations for the purpose of minimizing areas without east-west lanes. Vineyard Wind’s originally proposed turbine layout was designed to accommodate both fishing within the turbine area as well as fishermen who needed to transit from ports to the northwest of the lease area and pass through the turbine area out to fishing grounds to the southeast. In particular, the turbine rows were oriented so as to allow straight-line navigation in this northwest-southeast direction. The transit lane described above and now incorporated into Vineyard Wind’s long-term plans for the lease area is also designed to facilitate transiting navigation in this direction. By adopting this Consensus Transit Corridor Plan transit lane, the turbine rows can therefore be adjusted to better accommodate the request for an east-west row arrangement, while still maintaining a consistent transiting navigation option.

6. Vineyard Wind will contribute to regional fisheries studies by providing funds, available expertise, and scientific resources. Vineyard Wind has been a strong advocate for federal, state, or regional bodies to establish mechanisms to fund and organize these studies to assess the cumulative impacts of multiple offshore wind projects on the fishing industry in Rhode Island and elsewhere and has even proposed a funding model that could be used. Vineyard Wind stands ready to support these study programs once they are established.

IV. Background on Vineyard Wind's Efforts to Avoid and Minimize Potential Impacts to Fishermen

In an effort to accommodate Rhode Island fishermen's request, Vineyard Wind spent many months with its technical team examining possible ways to avoid and minimize potential impacts to Rhode Island fishermen. It is important to understand that while Vineyard Wind's project envelope identifies turbine sizes ranging from 8 to 10 MW, the largest commercially feasible and available turbine has until very recently been an approximate 8.5 MW turbine. Therefore, Vineyard Wind's initial efforts to avoid and minimize potential impacts to fishermen assumed the project would employ an 8.5 MW turbine, which would require 94 locations to realize an 800 MW project.

Given the technical and regulatory constraints discussed above, we first explored the number of turbine locations that could feasibly be relocated to areas where geophysical data has already been collected. At most, we were able to create two 1 nm mile fishing lanes within the array, and possibly a third $\frac{1}{2}$ nm lane. We presented this possible option for turbine layout adjustment to leaders of the Rhode Island fishing industry, and learned from them that this adjustment would not meaningfully address their concerns. In addition, based on further discussions with BOEM staff, we concluded that even moving a limited number of turbine locations at this late stage would introduce considerable schedule risk, and so should not be undertaken unless there was a clear and significant advantage in doing so. Given that this approach would introduce significant risk with limited value to fishermen, it was not pursued further.

We therefore looked for ways to minimize the total area that would not ultimately have a fully east-west turbine row orientation. This led us to focus on the southern portion of the WDA and the interface with the remaining lease area which, as noted, Vineyard Wind will design in an east-west orientation. As shown in Attachment A, by selectively dropping 12 turbine locations (shown in red), Vineyard Wind was able to create three full (and a portion of a fourth) 1 nm wide east-west fishing lanes at the southern portion of the WDA, which limits the total turbine area of the current WDA without east-west lanes, and smoothly integrates with future turbines sited in an east-west direction (shown in blue) in the remaining lease area. The future turbine locations in blue are shown for illustrative purposes only, meant to represent the general arrangement of turbines, and are not necessarily the exact locations where future turbines might be proposed. By creating these three full and a partial fourth, 1 nm east-west fishing lanes the size of the originally proposed WDA where turbines

are not arranged in east-west rows was reduced by approximately 20% or 62 sq. km (18 sq. nm). Furthermore, when future turbines are built to the south, there would be no additional areas without east west rows extending the full width of the lease area, and therefore the total area without east-west rows would be limited to the 62 sq. km.

While we were considering options to modify the WDA within the constraints described, our commercial team was actively engaged with turbine manufacturers to evaluate the commercial feasibility of using a larger turbine. As we discussed at the November 1 Meeting, until this time, a larger turbine was not commercially available for the U.S. market. However, because of Rhode Island's urging to use a larger turbine at the November 1 Meeting, our commercial team redoubled their efforts, engaging in all-night negotiations, to allow us to commit to using a larger turbine. Vineyard Wind's successful procurement of this turbine, and our commitment to use it despite the risks of using a "first-in-series" turbine that has not yet received technical certifications, confirms our dedication to the successful coexistence of the offshore wind industry and commercial fishing interests.

V. Large Turbine Alternative WDA Options

While Vineyard Wind is pleased that it is able to commit to using the largest commercially available turbine for the project, doing so does present some risk to the project as it is the first use of a new turbine model in a new market. In particular, the new turbine will need to be certified for use in the U.S. on a timeline compatible with organizing financing. Nevertheless, Vineyard Wind is willing to accept this risk to avoid and minimize potential impacts to fishermen.

With use of this larger turbine, the project layout requires only 84 locations to produce 800 MW of power. This enables Vineyard Wind to eliminate 22 turbine locations and reduce the area of the WDA where turbines cannot be aligned in an east-west orientation, while allowing for several turbine layout options to be considered. Attachment B provides three proposed layout options for the Large Turbine Alternative WDA. The locations depicted for each option are the planned and intended locations we fully expect to use barring any unforeseen issues that are beyond our control. We do note, however, that in the unlikely event Vineyard Wind encounters unexpected subsurface issues at a location, a turbine could be moved to an alternate location where required geological and geophysical data already exists, but still located in the project envelope of the COP. Should this be necessary, the new turbine location would be chosen so that it is contiguous with the main turbine array, and does not to disrupt the planned east-west orientation of future turbines.

All of the Large Turbine Alternative WDA options have 84 turbine locations, which further reduces the size of the WDA where turbines cannot be aligned in an east-west direction compared to the COP Appendix III-R Alternative. Each option also retains the originally planned 1 nm northwest-southeast transit corridor that further enables transit and/or fishing within the WDA (in addition to the 2 nm wide corridor to the south of the turbine area which is part of the Consensus Corridor Plan). Each option

may have certain advantages over others for minimizing potential impacts to commercial fishermen. From a technical perspective, all of the options are feasible for Vineyard Wind. Therefore, we are willing to adopt the option CRMC deems best aligned to address Rhode Island fishermen needs.

Large Turbine Alternative WDA Option 1: At the November 1 Meeting, Vineyard Wind was expressly asked whether turbines located at the northern portion of the WDA could be moved to allow more space for fishing and transiting activities that occur north of the WDA. Option 1 responds to that request by eliminating the three northernmost turbine locations. As can be seen in Attachment A, under this option the northern most turbines are now approximately 1 nm farther from the area to the north of the WDA which is considered a squid “hotspot” and the most heavily transited area by fishing vessels travelling to and from fishing grounds. This option reduces the area of the WDA where turbines are not aligned east-west by 22%, meaning it is 19.5 sq. nm smaller than the originally proposed WDA. While this reduction in size is significant, it is slightly less than the reduction achieved by options 2 and 3.

Large Turbine Alternative WDA Option 2: This option retains the northernmost turbine locations which allows elimination of 22 turbines from the southern portion of the WDA. This option achieves the greatest reduction in the size of the WDA where turbines are not aligned east-west — a 24% reduction, which means it is 21.5 sq. nm smaller than the originally proposed WDA.

Large Turbine Alternative WDA Option 3: Option 3 is a combination of options 1 and 2 in that it removes the furthest northeastern turbine, which is closest to the squid hotspot that occurs in an arc just south of Martha’s Vineyard and Nantucket, and eliminates the remaining 21 turbines from the southern portion of the WDA. It reduces the size of the WDA by 23%, which means it is 20.4 sq. nm smaller than the originally proposed WDA.

To aid evaluation of these options, Attachment F overlays each option on the tow track graphic submitted to the record by the Commercial Fisheries Center of Rhode Island (“CFCRI”), which was reported to represent tow tracks over a 20-year period.⁷ In our view, the graphic suggests that over a 20-year period, tows in an east-west direction occur principally in the area to the south and west of the WDA where turbines will be aligned in an east-west direction (indicative locations shown as aqua dots). Fishing occurs in more random directions where turbines cannot be aligned east-west (locations shown as green dots). Indeed, in many respects fishing in this area appears to occur largely in a northwest-southeast direction consistent with the

⁷ As CRMC is aware, Vineyard Wind requested that CRMC analyze the track line graphic to obtain a more reliable assessment of actual fishing effort by year and season. RI DEM informed us that based on discussions with CFCRI, it is not possible to analyze the data upon which the graphic is based because the dates attributed to the tracks may not be indicative of actual fishing dates, nor may a single track represent the number of tows performed on a particular track.

layout in that area and with the contours within the WDA. In any case, the graphic demonstrates that the layout options provide a reasonable alternative to accommodate Rhode Island fishermen. In addition, fishermen have indicated that certain species that mobile gear fishermen target are fished along “seams” that may be contours, depths, or bearing lines. Attachment G provides 2016 AIS track line data from 16 individual Rhode Island- based vessels traveling under 4 knots overlaid on Vineyard Wind’s most recent bathymetry of the WDA. The Attachment shows that contours and depths, *i.e.*, seams, within the WDA are not aligned in an east-west direction or and that fishing AIS track lines don’t strictly occur in an east-west direction

IV. Input from Rhode Island Fishermen

Vineyard Wind has been actively engaging with Rhode Island fishermen as we have explored options for minimizing potential impacts to fishermen. Our Fisheries Representative, Crista Bank, has had numerous communications with Fisheries Advisory Board (“FAB”) Chairman Lanny Dellinger, CFCRI Executive Director Fred Mattera, Town Dock representatives Donald Fox and Katie Almeida, and others to keep them informed of how Vineyard Wind was trying to address their concerns and to solicit feedback from them. Ms. Bank has also reached out to fishermen from Massachusetts and other states who may fish in the lease area. The general feedback from Rhode Island fishermen has been that the only acceptable alternative is to completely realign the turbines in an east-west direction with 1 nm between each row. As will be discussed in more detail in our mitigation submission, the best available data does not support a finding that the WDA is an area of high fishing activity or that fishing necessarily occurs in a strictly east-west direction.⁸

Rather, there appears to be concern among fishermen that the Vineyard Wind project is precedent setting and that any compromise with Vineyard Wind will have a domino effect resulting in future projects also not having an east-west layout. As CRMC is aware, at the July 26, 2018 FAB meeting, Vineyard Wind was directly told by FAB members that it was “important that we prevail in this discussion as an industry and that lends itself to the next development so that we prevail in that one as well”, that anything less “is not negotiable,” and Vineyard Wind “is going to cave on this one.”⁹ While we understand fishermen’s concerns about the impact of offshore wind development on their industry as a whole, CRMC must base its decision making on the facts before it and the merits of Vineyard Wind’s proposal.

However, the Vineyard Wind project is not precedent-setting with respect to its layout. Rhode Island fishermen have already received commitments from all current lease holders, including Vineyard Wind, that for all future projects in waters important to Rhode Island fishermen, turbines will be aligned in an east-west

⁸ Vineyard Wind notes that the Ocean SAMP principles include basing “all decisions on the best available science.”

⁹ See Transcript of July 26, 2018 Vineyard Wind meeting with the FAB at pages 40 and 94.

direction. Vineyard Wind has further committed to a 1 nm distance in between rows. While Vineyard Wind is not sure if other developers have also committed to 1 nm distance between rows, if they have not so committed Vineyard Wind's commitment for full 1 nm spacing between rows will actually serve as an example for other projects, and would therefore be a desirable precedent for fishermen.

Moreover, in its October 19, 2018 Final Sale Notice for the remaining portions of the Massachusetts Wind Energy Area (ATLW-4A), BOEM includes lease terms that require lessees to "extend any BOEM-approved vessel transit corridors in adjacent lease areas, unless BOEM determines that such corridors are not necessary or can be modified." 83 Fed. Reg. 53,089. In addition, in its supplemental information for bidders, BOEM puts bidders on notice that an additional north-south transit corridor has been identified as an important need for the fishing industry to allow vessels to transit between the squid grounds, fished during the day, and the whiting grounds, fished at night. Furthermore, CRMC has requested that its Geographic Location Description ("GLD") be expanded to include these new lease areas and through the GLD or other authority, CRMC can establish a policy that turbine rows should be aligned in an east-west direction. Thus, any uncertainties that the Vineyard Wind project will set standards for future projects in the area is simply unfounded.

Rather, the area where turbines will not be aligned in an east-west direction accounts for a relatively small area (approximately 6%) of the Massachusetts and Rhode Island/Massachusetts WDAs. Moreover, as discussed above, the evidence presented by fishermen themselves shows that this small area is not where fishermen routinely trawl in an east-west direction. It is also not an area that yields large revenues for the Rhode Island fishermen compared to other areas, which is shown in the data analysis conducted by the Rhode Island Department of Environmental management and by CRMC's submission to the National Oceanographic and Atmospheric Administration requesting to amend its GLD.¹⁰ By providing the Large Turbine Alternative WDA options and committing to a compensatory mitigation program, Vineyard Wind has clearly demonstrated that the project will not have significant long-term impacts on Rhode Island commercial fishermen.

Finally, Vineyard Wind wants to acknowledge for the record that meaningful communications between federal and state agencies, the fishing industry, and the offshore wind industry has not been ideal for all parties involved. There is a need to create a better system that allows fishermen to be better heard on key issues important to them at both local and regional levels so that developers can reliably incorporate concerns early in their planning and design of projects.

The expressed desire for an east-west alignment of turbine rows is a case in point. Throughout BOEM's entire public process on establishing the Massachusetts WEA, including multiple joint taskforce meetings between Rhode Island and Massachusetts

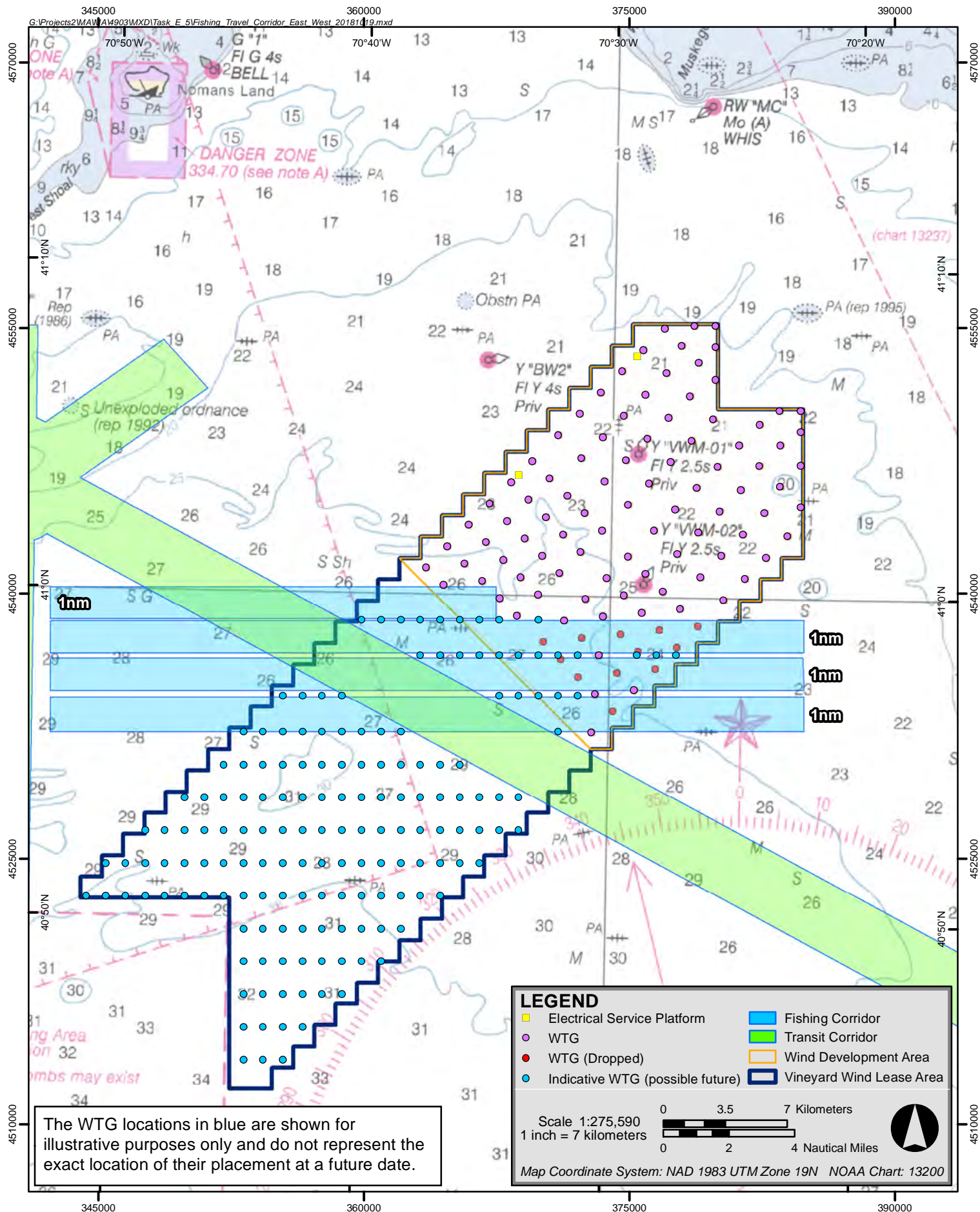
¹⁰ As noted, Vineyard Wind has retained an expert fisheries economist to evaluate the best available data. His expert report will be submitted with Vineyard Wind's compensatory mitigation proposal.

in which CRMC was an active participant, the expressed need to align turbines in an east-west direction was never raised. Nor is there any mention of an east-west agreement between mobile and fixed gear fishermen in the Ocean SAMP. Indeed, the Ocean SAMP discusses that mobile and fixed gear fishermen alternate use of the Cox's ledge area during certain times of the year to avoid gear conflict, not that they fish in any particular direction. Additionally, Vineyard Wind began informal discussions with Rhode Island fishermen in 2011 to obtain information about fishing activity in our lease area, including several meetings with members of the FAB. The need for an east-west alignment was never raised nor were any concerns regarding the turbine layout and gear conflicts. For example, Vineyard Wind presented to the FAB on July 24, 2017, and received many detailed questions and comments regarding the project, but there was no request or mention of an east-west turbine row layout. It was not until after Vineyard Wind submitted its COP that the east-west alignment was raised, which is far too late in the process for Vineyard Wind, or any other developer, to make wholesale changes to a project.



VINEYARD WIND

Attachment A – COP Appendix III-R Alternative



Vineyard Wind Project

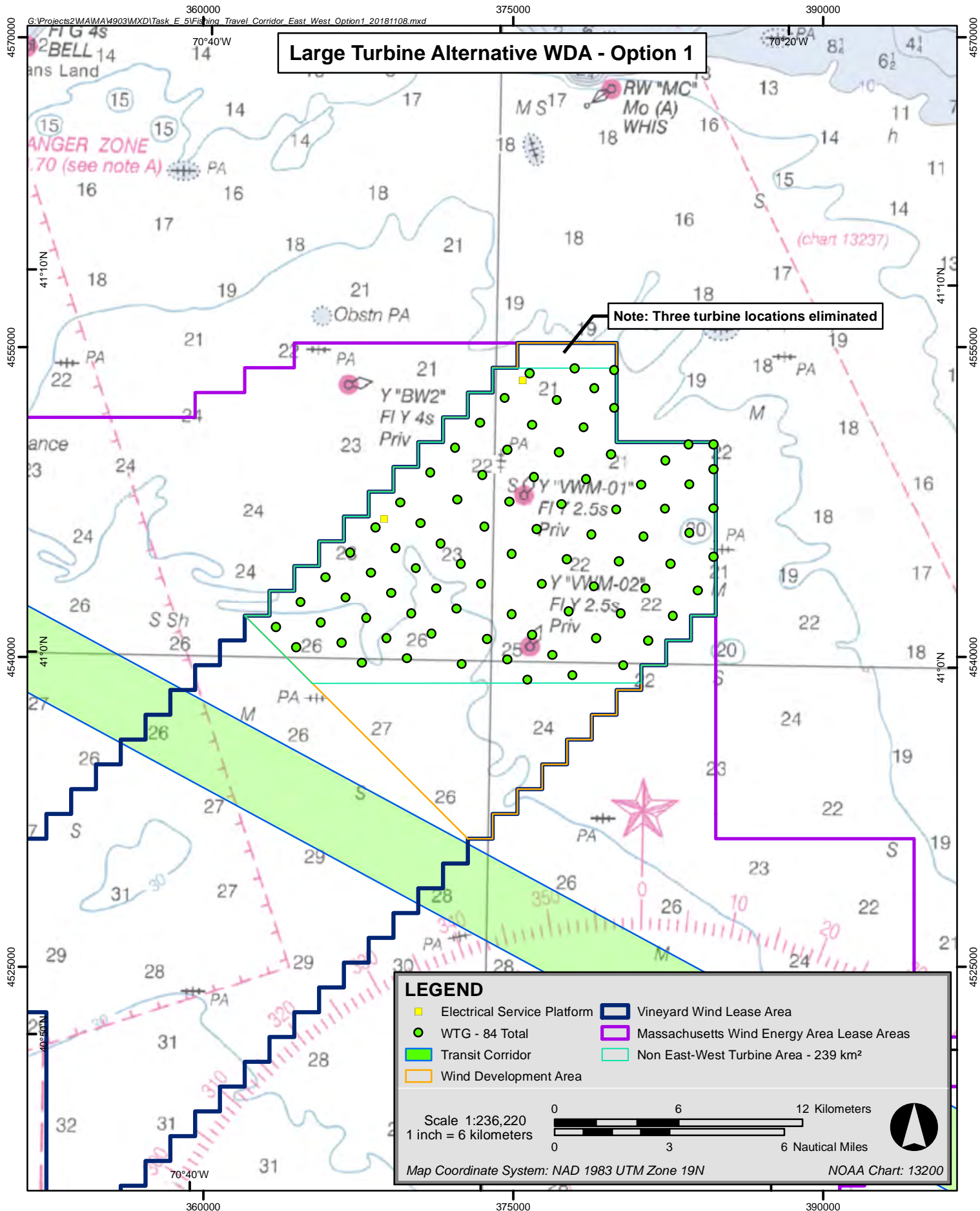


Figure R-1
Alternate Layout



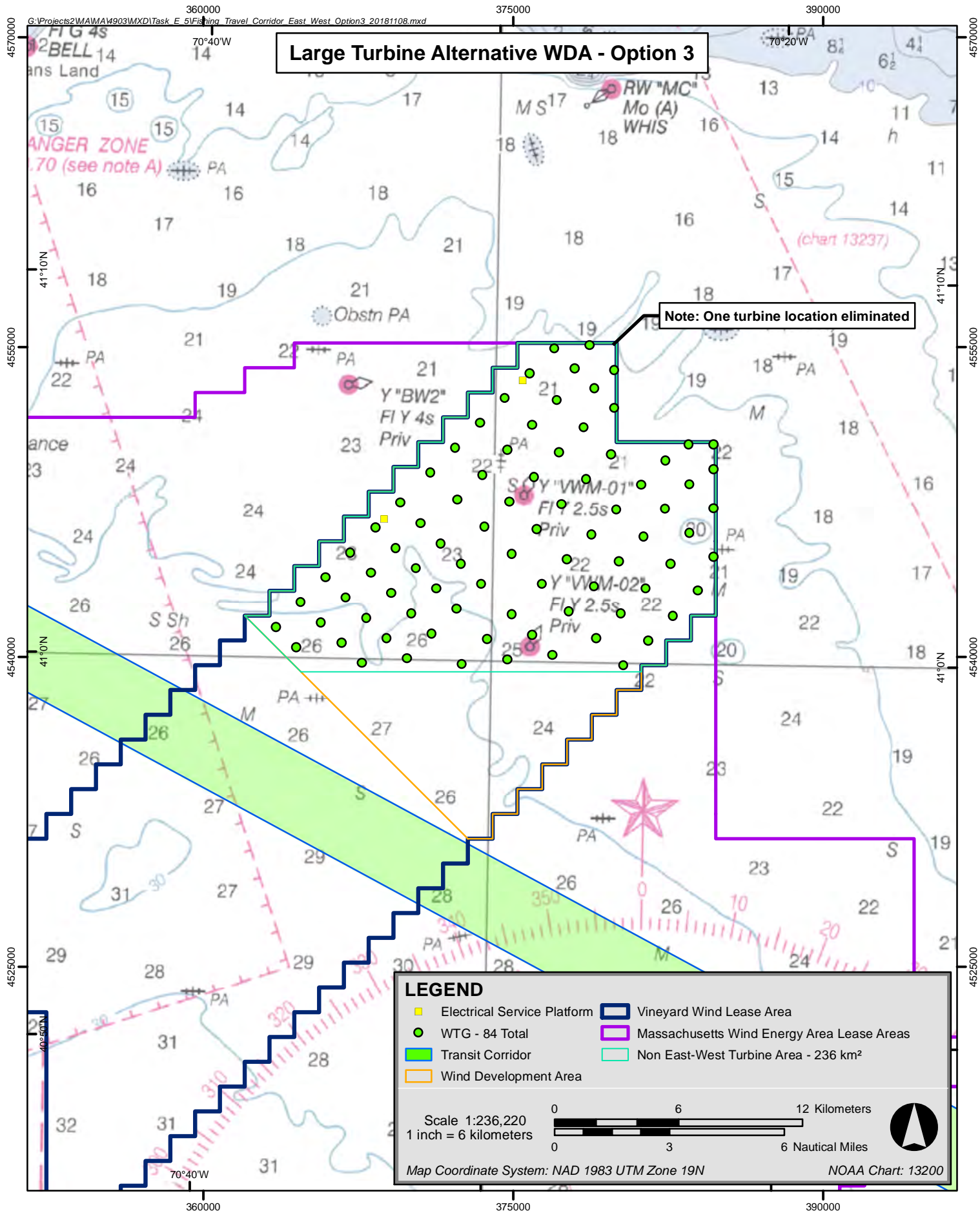
VINEYARD WIND

Attachment B – Large Turbine Alternative WDA Options



Vineyard Wind Project





Vineyard Wind Project



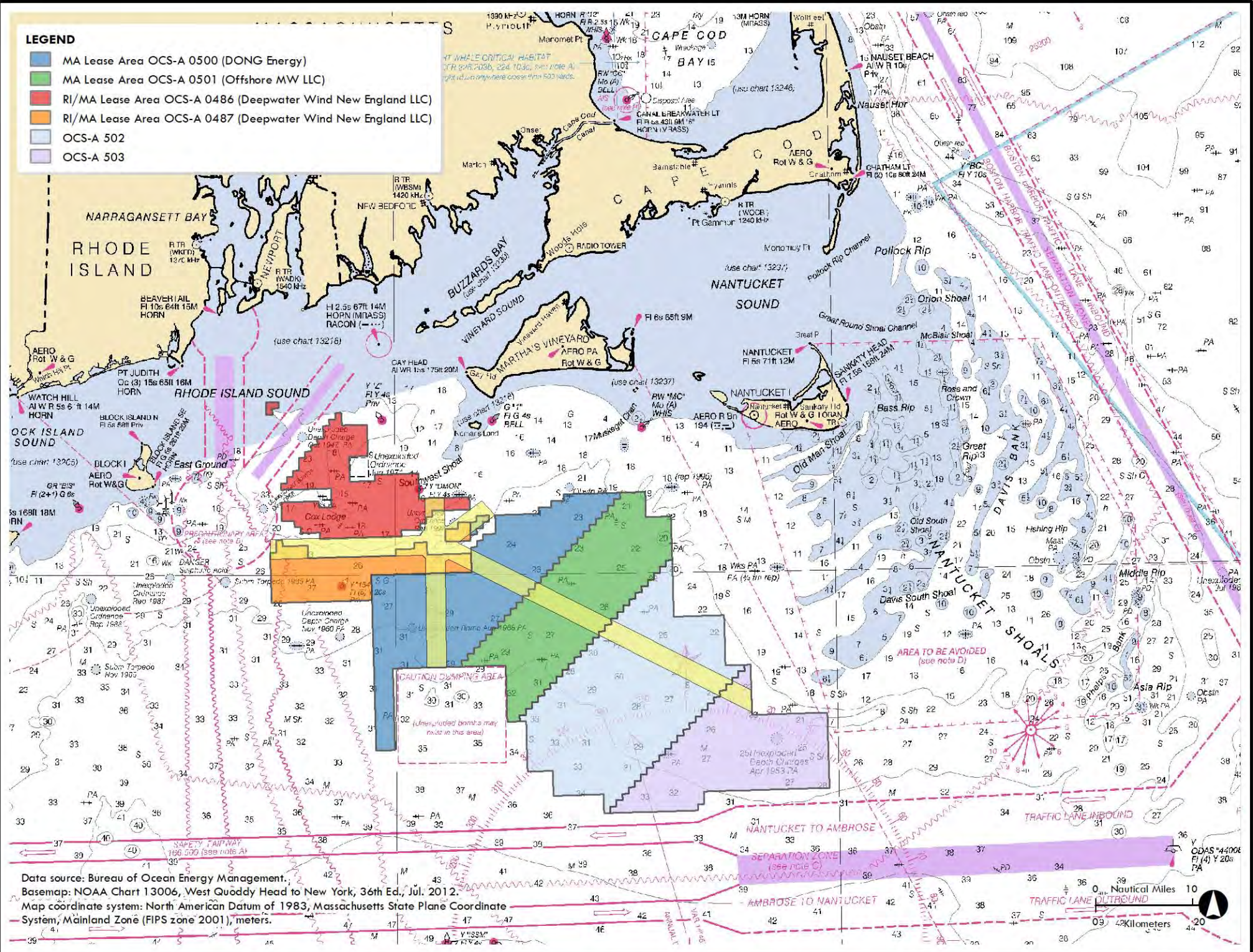


VINEYARD WIND

Attachment C – Consensus Transit Corridor Plan

LEGEND

- MA Lease Area OCS-A 0500 (DONG Energy)
- MA Lease Area OCS-A 0501 (Offshore MW LLC)
- RI/MA Lease Area OCS-A 0486 (Deepwater Wind New England LLC)
- RI/MA Lease Area OCS-A 0487 (Deepwater Wind New England LLC)
- OCS-A 502
- OCS-A 503





VINEYARD WIND

**Attachment D – Massachusetts Department of Energy Resources Letter
August 1, 2018**



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
100 CAMBRIDGE ST., SUITE 1020
BOSTON, MA 02114
Telephone: 617-626-7300
Facsimile: 617-727-0030

Charles D. Baker
Governor

Matthew A. Beaton
Secretary

Karyn E. Polito
Lt. Governor

Judith F. Judson
Commissioner

August 1, 2018

Mark D. Marini, Secretary
Department of Public Utilities
One South Station, 5th Floor
Boston, MA 02110

RE: Petitions for Approval of Proposed Long-Term Contracts for Offshore Wind Energy Pursuant to Section 83C of Chapter 188 of the Acts of 2016, DPU 18-76, 18-77, 18-78.

Dear Secretary Marini:

On July 31, 2018, Fitchburg Gas and Electric Light Company, d/b/a Unitil ("Unitil"), Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid ("National Grid"), and NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy ("Eversource") (collectively, the "Electric Distribution Companies" or "EDCs"), filed long-term contracts for the Vineyard Wind project for review and approval by the Department of Public Utilities ("Department"), pursuant to Section 83C of Chapter 169 of the Acts of 2008, as amended by Chapter 188 of the Acts of 2016 ("Section 83C"). In accordance with Section 83C, the EDCs issued a Request for Proposals ("RFP") on June 29, 2017 seeking offshore wind energy generation. The outcome of this process was the selection of the Vineyard Wind LLC ("Vineyard Wind") combined 800 megawatts ("MW") of offshore wind generation project (the "800 MW Vineyard Wind Project")¹ and the execution of

¹ The long-term contracts provide for the delivery of an aggregate of 800 MW of Offshore Wind Energy Generation and related RECs which will be delivered in two phases with expected commercial operation dates ("COD") of

cost-effective long-term contracts for the reliable offshore wind generation output and renewable energy certificates (“RECs”) of the 800 MW Vineyard Wind Project.

The Vineyard Wind offshore wind generation long-term contracts filed by the EDCs represent over a year’s worth of collaboration and consultation among the EDCs, the Department of Energy Resources (“DOER”), and Independent Evaluator (“IE”), and are a significant milestone in the Commonwealth’s transition to a clean, diversified energy portfolio. As detailed below, at a total levelized price of 6.5 cents/kilowatt hour (“cents/kWh”)(2017 Dollars) for energy and RECs, the Vineyard Wind offshore wind generation long-term contracts provide a highly cost-effective source of clean energy generation for Massachusetts customers.² As shown in the EDCs’ filings, on average, these contracts are expected to reduce customer’s monthly bills, all else being equal, approximately 0.1% to 1.5%.³ The 800 MW Vineyard Wind Project achieves the requirements and objectives of Section 83C and the Department’s regulations, 220 C.M.R. §23.00,⁴ including assisting the Commonwealth with meeting its Global Warming Solutions Act goals and supplying the Commonwealth with critical diversity to our energy portfolio through utilizing a technology with relatively high production during winter months. The implementation of this 800 MW Vineyard Wind Project has the potential to support Massachusetts’ “first mover” advantage in offshore wind development, providing greater opportunities for development of local supply chain and offshore wind industry jobs in the Commonwealth. This 800 MW Vineyard Wind Project is the largest procurement of offshore wind generation in the US, and will help spur development of local industry and economic development, including the use of the New Bedford Marine Commerce Terminal.

I. Section 83C Solicitation and Selection of Vineyard Wind

On April 28, 2017, pursuant to Section 83C, the EDCs proposed a timetable and method for solicitation of long-term contracts for offshore wind energy to the Department for review and approval. Subsequently, the Department approved the RFP, and the EDCs and DOER, (together the “Evaluation Team”), as monitored by the IE, conducted a highly competitive and robust solicitation for offshore wind generation projects. The RFP targeted 400 MW of generation but allowed proposals from 200 to 800 MW with the ability to select 800 MW if the larger proposal was superior to other proposals and was shown to provide significantly more net benefits to ratepayers. A total of 27 different proposals from three different bidders were received. The proposals ranged in capacity from 200 to 800 MW, contained various configurations of

January 15, 2022 for the first 400 MW (Phase 1) and January 15, 2023 for the second 400 MW (Phase 2). The long-term contracts each have a term of 20 years from the date of commercial operation.

² All dollar figures in this document are the result of using an evaluation of a multi-year net present value analysis as set forth in the RFP and are expressed in 2017 real dollars.

³ Exhibit JU-8, EDC Initial Filing (DPU 18-76, 18-77, 18-78).

⁴ Pursuant to Section 83C, the Department was required to promulgate regulations. The regulations required the long-term contracts for Offshore Wind Energy Generation resources to: 1) provide enhanced electricity reliability; 2) contribute to reducing winter electricity price spikes; 3) be cost effective to Massachusetts electric ratepayers over the term of the contract, taking into consideration potential economic and environmental benefits to the ratepayers; 4) avoid line loss and mitigate transmission costs to the extent possible and ensure that transmission cost overruns, if any, are not borne by ratepayers; 5) adequately demonstrate project viability in a commercially reasonable timeframe; 6) allow offshore wind energy generation resources to be paired with energy storage systems; 7) mitigate any environmental impacts, where possible, and; 8) create and foster employment and economic development in Massachusetts, where feasible.

transmission, and included various pricing options. Per the RFP, the evaluation process was comprised of three evaluation stages, including both a quantitative and qualitative assessment of bids. At the conclusion of the evaluation process, the Evaluation Team ranked the proposals, and the 800 MW Vineyard Wind Project was determined to be the lowest cost and highest ranked proposal.

The EDCs agreed to select one of the projects proposed by Vineyard Wind; however, they disagreed as to which specific project,⁵ with National Grid and Unitil favoring Vineyard Wind's 800 MW proposal and Eversource favoring Vineyard Wind's 400 MW proposal. Given that the EDCs failed to agree on whether the 800 MW or 400 MW Vineyard Wind bid should be selected, DOER followed Section 83C to consult with the IE and select the winning bid. DOER selected the 800 MW Vineyard Wind Project after determining, consistent with the RFP, that the 800 MW Vineyard Wind project meets the threshold of being superior to other proposals and is likely to produce significantly more economic benefits to ratepayers compared to the 400 MW project.

DOER found that the 800 MW Vineyard Wind Project was superior in terms of having the lowest total proposal price and highest levelized benefit (at net present value) of all proposals evaluated. Compared to the 400 MW Vineyard Wind proposal, it had significantly higher NPV net benefit to ratepayers. Further, the selection of the 800 MW Vineyard Wind Project is expected to exert downward pressure on future prices for offshore wind. In addition, contracting with 800 MW of offshore wind provides a unique opportunity to maximize the value of the federal investment tax credit ("ITC") as the value of the credit is scheduled to be gradually reduced and will not be available for projects that start construction after December 31, 2019.

II. The 800 MW Vineyard Wind Project Provides Significant Value to Massachusetts Ratepayers

As previously stated, the DOER strongly supports the 800 MW Vineyard Wind Project, and recommends that the Department approve the resulting offshore wind energy generation long-term contracts. The 800 MW Vineyard Wind Project is highly cost-effective procured through a rigorous and highly competitive RFP process that will provide offshore wind energy generation and RECs to the Commonwealth and effectively meets the requirements and objectives of Section 83C. Specifically, the 800 MW Vineyard Wind Project significantly aligns with the Commonwealth's goals of creating a clean, affordable, and resilient energy future for the Commonwealth.

The 800 MW Vineyard Wind Project contributes to the Baker-Polito Administration's goal of creating an affordable energy future. As detailed in the EDCs' filing⁶, the 800 MW Vineyard Wind Project will provide the Commonwealth with energy and RECs at a total

⁵ Exhibit JU-6, EDC Initial Filing (DPU 18-76, 18-77, 18-78).

⁶ *Id.* at Exh. JU-5, *see also* Exh. JU-4.

levelized price of 6.5 cents/kWh 2017 dollars over the term of the long-term contracts.⁷ This total price is materially below the levelized projected costs of buying the same amount of wholesale energy and RECs in the market, which is projected to be a total levelized price of 7.9 cents/KWh in 2017 dollars over the 20-year term of contract.⁸ Over the life of the contract, the 800 MW Vineyard Wind Project is projected to provide an average 1.4 cents/KWh of direct savings to ratepayers.

In addition to the direct market benefits from these fixed cost contracts described above, the 800 MW Vineyard Wind Project also provides indirect benefits. These indirect benefits include energy market price reductions and lower Renewable Energy Portfolio Standard (“RPS”) compliance costs through increased REC supply. Additionally, ratepayers receive the benefit of price certainty through a fixed cost contract. Overall, the total direct and indirect benefits to Massachusetts ratepayers from the long-term contracts with Vineyard Wind are expected to be 3.5 cents/kWh, or \$35.29/ megawatt-hours (“MWh”) on average over the term of the contract, with total net benefits of approximately \$1.4 billion.⁹

Section 83C allowed for proposals to provide options to create and foster employment and economic development in the Commonwealth, where feasible. The 800 MW Vineyard Wind Project includes a \$15 million initiative for acceleration of the offshore wind market including: a \$10 million offshore wind industry accelerator fund, \$2 million for workforce development and \$3 million for innovations in protecting marine mammals. Additionally, Vineyard Wind will further establish a Resiliency and Affordability Fund by contributing \$1 million each year for 15 years. The Fund will support the construction of battery energy storage and solar projects for the purpose of enhancing resiliency and providing low-income ratepayer benefit in the communities hosting the Vineyard Wind Project.

⁷ The price for energy and RECs in the Phase 1 of the long-term contracts begins at \$74 per MWh (nominal \$), and the price for energy and RECs in the Phase 2 long-term contracts begins at \$65 per MWh (nominal \$). Each long-term contract has a 20-year term, starting at the COD of the relevant project, and the prices described above escalate by 2.5 percent each year of that term which starts in 2022 and runs until 2043. The 20-year average cost of the two long-term contracts’ is \$84.23 per MWh in levelized nominal dollar terms. This is equivalent to a levelized net present value price in 2017 dollars of \$64.97 per MWh.

⁸Projections of future energy market and REC costs are described in detail in the quantitative evaluation results.

⁹ *Id.* at Exh. JU-5, *see also* Exh. JU-4.

III. CONCLUSION

The 800 MW Vineyard Wind Project and the corresponding contracts provide a cost-effective source of reliable offshore wind energy for Massachusetts customers, meet the requirements of Section 83C, and are in the public interest. Accordingly, the DOER respectfully requests that the Department approve the long-term contracts filed by the EDCs.

Respectfully submitted by,

THE MASSACHUSETTS DEPARTMENT
OF ENERGY RESOURCES

By its attorneys,

/s/ Robert H. Hoaglund II

Robert H. Hoaglund II, General Counsel
Ben Dobbs, Deputy General Counsel
100 Cambridge Street, Suite 1020
Boston, MA 02114
617.626.7300



VINEYARD WIND

**Attachment E – Massachusetts Coastal Zone Management Letter
October 5, 2018**



THE COMMONWEALTH OF MASSACHUSETTS

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

OFFICE OF COASTAL ZONE MANAGEMENT

251 Causeway Street, Suite 800, Boston, MA 02114-2136

(617) 626-1200 FAX: (617) 626-1240

MEMORANDUM

TO: Matthew A. Beaton, Secretary, EEA
ATTN: Purvi Patel, MEPA Unit
FROM: Bruce Carlisle, Director, CZM
DATE: October 5, 2018
RE: EEA-15787, Vineyard Wind Connector

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Supplemental Draft Environmental Impact Report (SDEIR), noticed in the *Environmental Monitor* dated September 5, 2018. These comments address the responsiveness of the SDEIR with regards to CZM's comments on the Draft Environmental Impact Report (DEIR), respond to new information provided since the SDEIR as part of the ongoing discussions between the proponent and state agencies, and review the proposed project with regards to the siting standards as stated in Ocean Management Plan (OMP) Regulations (301CMR 28.00) which will provide a framework for the Final Environmental Impact Report (FEIR) review and the Secretary's Certificate on the proposed project. The SDEIR is largely responsive to comments and questions raised in CZM's comment letter on the DEIR. CZM commends Vineyard Wind for their efforts to address agency concerns throughout the MEPA review.

Project Description

Vineyard Wind proposes to install two 10-inch diameter 220 kV AC offshore export cables to connect its wind energy project, located within the federally designated Wind Energy Area off Massachusetts, to the existing electrical grid on Cape Cod. This proposal is part of a larger project that seeks to permit an 800-megawatt (MW) offshore wind farm under the jurisdiction of the Bureau of Ocean Energy Management (BOEM). Major elements of the total project include a wind turbine array, offshore electrical service platforms, offshore electric transmission to shore, onshore underground transmission, and an onshore substation. The SDEIR maintains two alternative offshore export cable corridors (a Western cable corridor and an Eastern cable corridor) which can make landfall at one of two potential sites (New Hampshire Avenue in Yarmouth and Covell's Beach in Barnstable). Each proposed cable construction corridor may be up to 810 meters wide. The Western corridor to the landing site at New Hampshire Avenue passes through 21.4 miles of state waters, while the Eastern corridor to the New Hampshire Avenue landing passes through 23.3 miles of state waters. Selection of the Covell's Beach landing site would result in corridors 20.9 and 22.6 miles long, respectively. Both proposed cable routes through Nantucket Sound include sections within the area of federal waters in the center of the sound. The cables will be buried approximately 1.5 to 2.4 meters below the seafloor and laid with a combination of hydroplowing (through flat, soft sediments), jetting (through small sand waves), suction dredging (through large sand waves), and mechanical dredging (through compacted sand/gravel/cobble). Dense aggregations of boulders will be avoided while solitary boulders will be removed from the cable pathway and placed in another location within the construction corridor.



Project Comments

CZM supports the responsible development of marine renewable energy to help meet state and regional greenhouse gas emission reduction goals as well as other statutory obligations. Vineyard Wind's offshore wind project has been developed through the federal planning and analysis, leasing, site assessment and construction and operations plan processes in which CZM has been an active participant since 2009. Through MEPA, NEPA, and federal consistency reviews CZM seeks to ensure that the project is consistent with state coastal program policies and applicable regulations.

In comments on the DEIR, CZM requested that Vineyard Wind provide clearer depictions of the proposed project relative to existing ocean resources and uses. The maps in Attachment A and the map books provided to CZM are largely highly responsive to this request. Due to project logistics relating to the processing of survey data, ongoing discussions with resource agencies, and still-to-be-confirmed cable laying methods, assessment of the project's avoidance and minimization of impacts to some sensitive resource areas is ongoing.

In the DEIR comments, CZM recommended that the information collected during the 2018 field campaign be used to demonstrate that Vineyard Wind's preferred cable route alternative avoids sensitive resources identified in the Ocean Management Plan (OMP) and, where avoidance is not practicable, minimizes potential impacts to those resources. After review of the information and analysis provided to date, CZM finds that Vineyard Wind has adequately demonstrated avoidance and minimization of potential impacts to core whale habitat areas, eelgrass, and intertidal flats in conformance with the siting standards of the OMP; however, more information is required in the FEIR on how the selected route and cable laying method(s) will minimize impacts to hard/complex seafloor resources. As Vineyard Wind is still processing and analyzing its 2018 field data, CZM looks forward to reviewing this information in the FEIR. This data should confirm the conclusions of Vineyard Wind's alternatives analysis and assessment of impacts. Similarly, CZM understands that the exact methods and equipment for dredging sand waves and installing the submarine cable will not be known until a contractor for such work is selected. Specific points and questions related to the OMP management standards, dredging methods and impacts, time of year restrictions, monitoring plans, and the Ocean Development Mitigation Fee are detailed below and should be addressed in the FEIR.

Massachusetts Ocean Management Plan

The OMP and its implementing regulations at 301 CMR 28.04(2) and (6) describe the management standards that apply to cables in the ocean planning area. The siting standard for activities in the ocean management planning area are presumptively excluded from the special, sensitive or unique (SSU) resource areas delineated on maps contained in the OMP. The presumptive exclusion may be overcome by a clear demonstration that (1) new, site-specific information provides more accurate delineation of the resource areas; or (2) no less environmentally damaging practicable alternative exists; and (3) all practicable measures to avoid damage to SSU resources have been taken and the activity will cause no significant alteration; and (4) the public benefits associated with the activity outweigh the public detriments to the SSU resource. For cable projects, the SSU resources that must be avoided are: hard/complex seafloor, eelgrass, intertidal flats, North Atlantic right whale core habitat, humpback whale core habitat, and fin whale core habitat. In the siting of cable projects for the transmission of offshore wind energy, the OMP management standards clarify that such cables are in presumptive compliance with the siting standards if: 1) investigations and surveys confirm the predominance of soft-bottom seafloor (i.e., the general absence of hard-bottom substrate) within cable corridors such that sufficient burial depths for cables can be reasonably expected, and that the presence of relatively small areas of hard-bottom substrate, such that the cable route cannot be

practicably located outside of these areas, within acceptable limits, is permissible; and 2) time of year controls are in place such that operations and dredging will avoid damage and cause no significant alteration to North Atlantic right whale core habitat, humpback whale core habitat, and fin whale core habitat. As stated above, CZM finds that Vineyard Wind has sufficient protocols in place to avoid impacts to endangered whales. The revised maps provided in the SDEIR show the extent of hard/complex seafloor in higher resolution than depicted in the OMP. Vineyard Wind has further delineated hard seafloor separately from complex seafloor (sand waves) and has made efforts to avoid hard seafloor when siting the proposed cable route. However, at this time, the amount of hard seafloor (areas of cobble and biogenic habitat) that cannot be avoided and may be impacted during the cable laying process are not fully known. CZM recommends that the FEIR clearly delineate and describe the extent and area of hard seafloor that is unavoidable and must be excavated or covered to successfully bury the cables. The FEIR should also present additional images obtained and habitat classification analysis conducted based on Vineyard Wind's field surveys and investigations for areas where identified hard bottom and biogenic habitats are within or proximate to the cable footprint.

The SDEIR provides a summary of impacts for the proposed cable routes (Table 1-4) and identifies that the western route through Muskeget Channel landing at Covell's Beach in Barnstable results in the least amount of impacts to the seafloor. In meeting the siting standards at 301 CMR 28.04(2)(b), it appears that the western route to Covell's Beach may represent the least environmentally damaging practicable alternative; however, further information and analysis to be presented in the FEIR may supersede this. Additionally, to meet the management standards in the OMP, Vineyard Wind should demonstrate, and clearly describe in the FEIR, how the public benefits of the proposed project outweigh the public detriments to SSU resources.

The method and machinery selected for the laying of the transmission cables is important to the avoidance and minimization of SSU resources. The OMP contains language that states that installation methods that achieve burial with minimal seabed disturbance—including footprint, width of trench, and sidecast and suspension of sediments—are strongly preferred. Such methods include jet plowing, remotely operated seabed tractors, and some towed seabed plows. The plan also states that all cable projects will need to have an approved plan for inspection and maintenance to ensure that adequate coverage is maintained. Vineyard Wind has conveyed that it seeks to maximize the use of trench fluidization through soft sediments as the preferred mode of cable laying. CZM agrees that simultaneous cable laying and burial in soft sediments (as opposed to trenching and laying the cable at a later time) is the preferred method for minimizing impacts. In areas of sand waves or other locations where dredging is required, CZM notes that the several dredging techniques presented in the SDEIR have different effects in terms of seafloor disturbance and sedimentation. It is clear from the additional modeling presented in the SDEIR that Trailing Suction Hopper Dredging (TSHD) has greater impacts than jetting or jetplowing. In order to reduce both direct impacts to habitat and biota on the seafloor and indirect sedimentation on these resources per the OMP requirements, Vineyard Wind should use the 2018 survey data to avoid or minimize laying cable in large sand waves (a process that requires TSHD), and maximize the use of fluidization and jetting (processes that allow simultaneous cable laying).

Under the OMP regulations at 301 CMR 28.04(3), proponents must avoid, minimize, and mitigate impacts to areas of concentrations of water dependent uses identified in the plan. Vineyard Wind's proposed steps to minimize impacts to recreational and commercial fishing activities and navigation include employing a Marine Coordinator to manage all construction vessel logistics,

enacting a 500-meter safety zone around all construction activities, and establishing a vessel traffic management plan and coordination with local pilots during construction. CZM encourages Vineyard Wind to provide notices to mariners to keep them apprised of specific construction activities and to minimize conflicts between construction vessels and recreational or commercial vessels in high transit areas, especially Muskeget Channel. In addition, DMF has a standard protocol for communicating the location and timing of survey activities to fixed gear fishermen. The protocol includes using various media sources (letters, texts, postcards, emails, website) to alert members of the Massachusetts Lobstermen's Association to the location and start time of a survey, to provide daily updates on activities, to answer inquiries from fishermen, and details a process for returning intercepted gear. CZM encourages Vineyard Wind to work with DMF and the fixed gear community to adopt a similar program to minimize impacts to this important commercial fishery during construction.

Transit Corridor and Turbine Spacing

While located in federal waters and therefore not under MEPA jurisdiction, the location and configuration of the turbines will have effects on resources and uses of the state's coastal zone. CZM's federal consistency review includes all of the elements of the proposed project in both the coastal zone and in federal waters. In our comments on the DEIR, CZM indicated that data from Vessel Monitoring Systems and Automatic Identification Systems show significant marine vessel navigational activity across the offshore wind lease areas, and that due to the high volume of vessel traffic (fishing and otherwise), the establishment of transit corridors is critically important to the safe passage of vessels. Since June, CZM has been working with the MA Fisheries Working Group on Offshore Wind (comprised of fishing industry representatives, representing various fisheries, gear types and ports) and the U.S. Coast Guard on the issue of identifying transit lanes through the offshore lease areas. Over the course of several meetings with significant discussion and consultation on a number of options and alternatives, general consensus was reached at the September 20th working group meeting on an alternative that provides safe options for vessels transiting through the adjacent wind energy lease areas via 2 nautical mile wide transit lanes to/from priority areas identified by various fishing sectors and ports. This alternative includes east/west and north/south transit lanes and a lane to the southeast ending just south of Nantucket shoals. Additionally, another north/south lane within the currently unleased areas (502 and 503) was discussed, to be revisited after the delineation of lease areas in BOEM's pending Final Sale Notice. We understand that discussions on this topic are still ongoing in other jurisdictions; however, CZM believes that the working group consensus alternative is a balanced and feasible option that while perhaps optimal to none, is acceptable from a navigational safety perspective and represents a compromise approach to a very difficult issue.

Species of Concern

Vineyard Wind has previously presented information on how it plans to mitigate for construction noise disturbance and ship strikes to whales and turtles. In the SDEIR, Vineyard Wind presents a plan for avoiding eelgrass beds and horseshoe crab spawning off Covell's Beach in Barnstable, should that landing alternative be chosen. Discussions to find appropriate TOY for construction to avoid impacts to Piping Plovers, bay scallops, whelks, squid eggs, and diving/plunging birds are ongoing. In meetings with resource agencies, Vineyard Wind has proposed that it may be possible to begin construction of the energy export cables in the nearshore in one year, bury the partial cable segments, and then splice and continue laying the remaining cable lengths in the offshore portion of the project in the following year. The FEIR should include details as to how the construction activities will be timed, staged, and sequenced to minimize impacts to the species of concern mentioned above. CZM acknowledges that the cumulative result of the various TOY restrictions may severely limit, if not preclude, time available for cable installation. Vineyard Wind should continue

discussions with resource agencies to determine the highest priority TOY and identify other mitigating measures (such as clearing the cable route prior to work) that will allow for a sufficient window for cable installation.

Fisheries Resources

In the SDEIR, Vineyard Wind provided new modeling (discussed further in the next section) for jetplowing, that shows the predicted extent of sediment drape that might affect winter flounder eggs (deposition > 1mm) is confined to within about 100 meters of the cable trench. Sediment deposition associated with dredging techniques is greater. As stated above, Vineyard Wind has had discussions with DMF and NMFS regarding the best TOY for construction to avoid impacts to fisheries resources. A summary of these discussions and a possible construction sequencing solution should be provided in the FEIR.

Vineyard Wind presented a third-party analysis of the potential electromagnetic frequency (EMF) energy released by the proposed energy export cables. The results suggest that the AC magnetic fields associated with buried, subsea cables is very low and when acting on a “compass-like magnetic sensing system, would have a time-average force of zero.” Thus, the EMF energy from the cable is not expected to interfere with the navigational sense of marine organisms. Vineyard Wind concludes that the electrical energy from its cables will not be detected by marine organisms.

Vineyard Wind should continue to work with DMF and the Town of Yarmouth shellfish program to delineate shellfish resources within the proposed cable corridor in Lewis Bay. Details of how the cable could be sited to avoid high density shellfish areas and how TOY provisions could be employed to minimize impacts to resources in Lewis Bay should be presented in the FEIR.

Cable Installation

The SDEIR includes new modeling of the potential sediment plume and deposition associated with laying the cables. Three methods of cable laying are modeled: 1) “jet plowing” (hydroploving) where simultaneous fluidizing of the trench and cable laying occurs; 2) “TSHD” where a suction dredge excavates sand waves areas, material is placed in a hopper and then dumped a distance away from the cable trench, and the cable is laid some time later; and 3) “jetting” (mass flow excavation) where jets of water push small sand waves away from the desired trench area and the cable is laid simultaneously. Mechanical trenching, with a tool similar to a chain saw discussed previously by Vineyard Wind for removing packed sand/gravel/cobble areas, was not modeled. During jet plowing, the model results predict that deposition of sediments > 1 mm would be confined to within 100 meters of the cable. However, the modeling work assumes the jetplow trench would be 1 meter wide while published field evidence from the Block Island Wind Farm (BOEM 2017-027) indicates that this method leaves a trench 2 meters wide. CZM requests that Vineyard Wind describe why jetplowing for this proposed project would result in half the trench width than has been documented for a similar offshore export cable.

During TSHD activities, the modeling depicts a plume of sediment with Total Suspended Solids (TSS) > 10 mg/l that is predicted to extend 10 miles from the dredged area while TSS > 1000 mg/l is predicted up to 3 miles away during hopper overflow and dumping. However, the model results shown seem to integrate all of the sediment plume impacts over the entire course of the total days of dredging activity and do not represent what would be present on any given day. CZM recommends that the FEIR include the model results for a representative day, perhaps even with an hourly breakdown, to better understand potential effects on both sedimentation and on visibility for

diving birds. As stated above, CZM recommends that Vineyard Wind minimize TSHD activities and maximize the use of simultaneous cable lay and burial techniques (e.g., jetplowing and jetting) to minimize impacts to the seafloor.

As stated in the DEIR comment letter, CZM recommends that the modeled results be verified during the actual installation process. The SDEIR suggests that this monitoring activity might include a handheld turbidity meter deployed from a small vessel at various depths during dredging. CZM looks forward to working with Vineyard Wind and the resource agencies on the details of this monitoring program.

In previous comments, CZM suggested that Vineyard Wind use its field data and its hydrodynamic model to characterize the wave dynamics, currents, and sediment transport along the proposed cable route, particularly in areas of sand waves, to better understand whether the proposed depth of burial is sufficient to avoid the potential use of armoring. The SDEIR describes a cable burial survey effort initially after construction, every year for the first three years, every three years for the next 12 years, and every five years beyond that. The SDEIR describes that sections of cable that are identified as inadequately buried, will be buried using a secondary burial tool. CZM discourages the use of armoring due to the detrimental impacts which can include increased scouring of the seafloor adjacent to the hard cover, increased substrate providing a vector for invasive species colonization, and impacts to commercial and recreational fishing operations. CZM instead recommends additional efforts to bury the cable to the appropriate depth or covering the cable with sand bags and gravel/cobble cover, as appropriate to mimic adjacent seafloor conditions.

Sand Waves

Vineyard Wind estimates that the linear extent of sand wave dredging would be 1.4 to 2.2 miles (depending upon the corridor and landing point) and the volume of dredging required in sand waves to be 71,000 to 136,000 cubic yards. Vineyard Wind estimates that the dredged corridors through sand waves for both cables will be approximately 65 feet wide at the bottom and with a 4:1 side slope ratio. This suggests that cable corridors within a 10-foot sand wave would be 145 feet wide and within a 15-foot sand wave would be 185 feet wide. CZM's understanding is that the potential dredging estimates were calculated assuming a 65-foot width which, given the above information, would underestimate the volumetric impacts. CZM suggests that for the FEIR Vineyard Wind use field survey data on the height and extent of sand wave areas to provide an updated estimate of the volume of material that will need to be removed from the seafloor to allow for cable laying in sand wave areas.

At this time, Vineyard Wind has not identified the exact areas where dredged material will be deposited other than to state that hopper dredge spoils will be dumped to the east or west of the dredging area within the 810-meter cable corridor. As CZM stated previously, there should be resource assessment information for each proposed disposal area to ensure that sensitive benthic habitat or fisheries resources are not impacted during this aspect of construction. CZM recommends that Vineyard Wind use its survey data (bathymetry, videos, benthic grabs) in the FEIR to identify potential dredge disposal locations that minimize impacts to benthic resources and to establish areas where dumping will be avoided. For example, dredge material should not be placed on areas mapped by Vineyard Wind as biogenic habitats. Potential dredge disposal areas should be similar in sediment texture and structure as the sites from which the material is dredged (e.g., excavated sand waves should be deposited in a nearby sand wave site). CZM recommends that areas to be dredged and dredge disposal areas be clearly defined in maps, with supporting field data to confirm the mapped units. The

FEIR should include all interpreted and raw field data (photos, videos, bathymetry, sidescan, biological and sediment grab samples) and these data should be used to inform this process. In particular, CZM would like to see validation for areas mapped as biogenic structures and cobble or cobble mixes.

Monitoring Plan(s)

CZM's previous comments asked for information on monitoring plans related to:

- Real-time cable installation effects (turbidity, sediment drape, physical disturbance) so that actual effects can be compared to anticipated effects;
- Construction impacts to biogenic habitats, benthic infauna, and/or fisheries resources;
- Recovery times of various resources;
- Demonstration of the as-built cable condition to verify the appropriate depth of cable burial;
- Demonstration that the cable remains adequately buried over the long-term.

While Vineyard Wind has outlined a monitoring effort to address each of these subjects in the SDEIR, the details regarding specific methods, times of year, frequency, and locations are still to be determined. CZM looks forward to working with Vineyard Wind and the other resource agencies on the details of these monitoring plans and establishing a process for determining if established performance standards have been met.

Ocean Development Mitigation Fee

Pursuant to the OMP and its regulations, the project is subject to an Ocean Development Mitigation Fee. In the SDEIR, pursuant to the fee structure contained in the OMP, Vineyard Wind identified the proposed project as a Class II ocean development activity category and proposed \$240,000 mitigation for a predicted 27 acres of permanent hard cover in state waters to protect the energy export cables. CZM's position is that mitigation for the Vineyard Wind project should be based upon the full extent of the impact of the project including: direct cable laying and dredging area, dredged disposal area, sediment deposition area, and impacts to biota and habitat, as well as permanent hard cover. Based upon Vineyard Wind's estimates of area impacted by cable installation in state waters (Table 1-4), up to 94 acres of seafloor could be disturbed temporarily; 27 acres of seafloor could be permanently covered with hard cable protection; 166,000 cubic yards of sediment could be fluidized resulting in 200 acres covered in over 1 mm of sediment; and 136,000 cubic yards of sand waves could be dredged. As stated above, some of these impacts may be underestimated. The extent of the anticipated impacts would place the project in the Class III ocean development activity category (i.e., footprint greater than 20 acres). CZM looks forwards to further discussion with Vineyard Wind and the Secretary's office on the Ocean Development Mitigation Fee for the FEIR.

Federal Consistency

The proposed project is subject to CZM federal consistency review. For further information on this process, please contact, Robert Boeri, Project Review Coordinator, at 617-626-1050 or visit the CZM web site at www.state.ma.us/czm/fcr.htm.

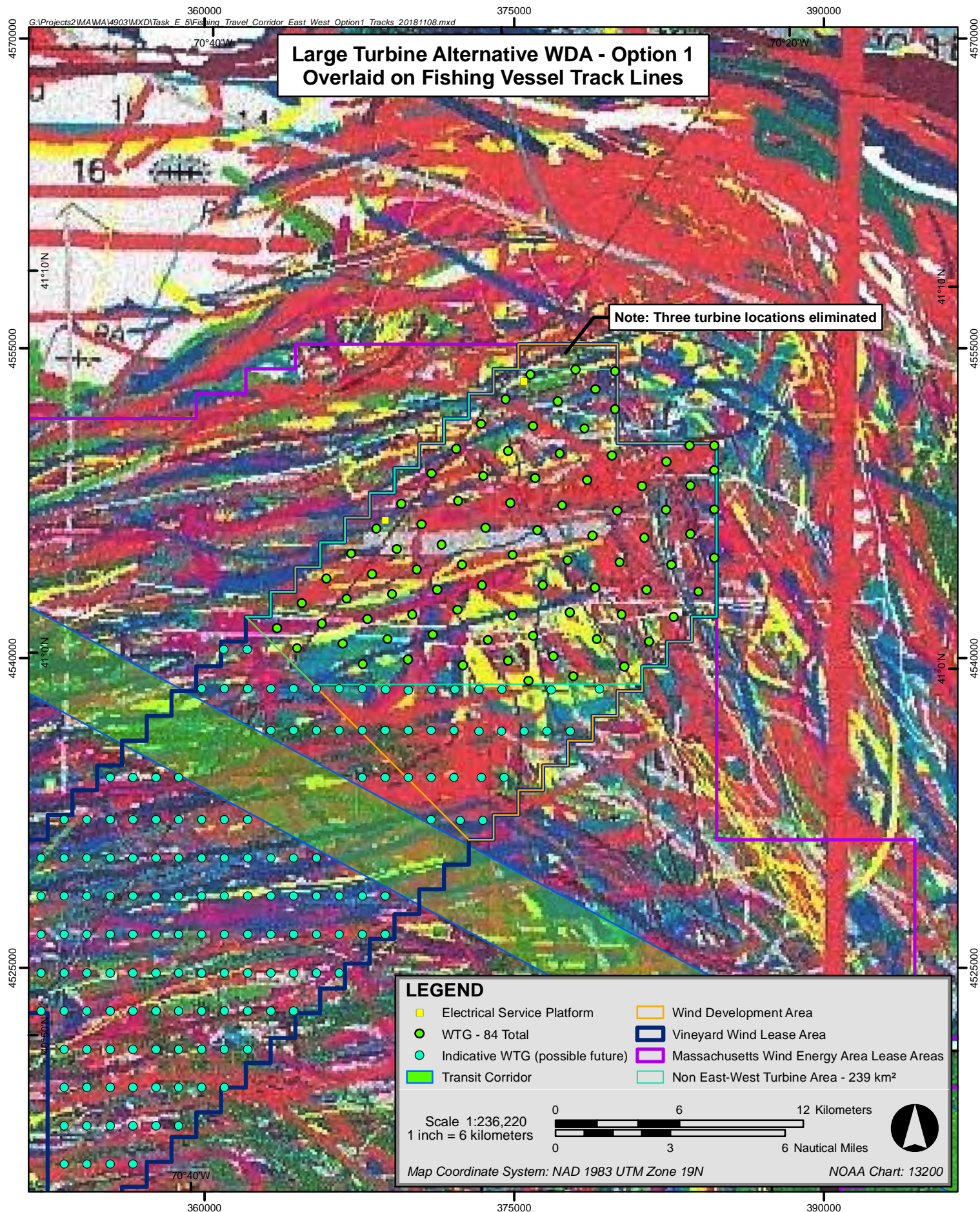
BKC/rlb/tc/sm

cc: Yarmouth Conservation Commission
Barnstable Conservation Commission
Holly Carlson Johnston, Epsilon Associates, Inc.
Rachel Pachter, Vineyard Wind
Conrad Caia, Yarmouth Shellfish Constable
Dan Horn, Barnstable Shellfish Constable
Christopher Boelke, Sue Tuxbury & Alison Verkade, NMFS
Ed Reiner, EPA
Derek Standish, David Wong, DEP
Kathryn Ford, John Logan, Eileen Feeney, DMF



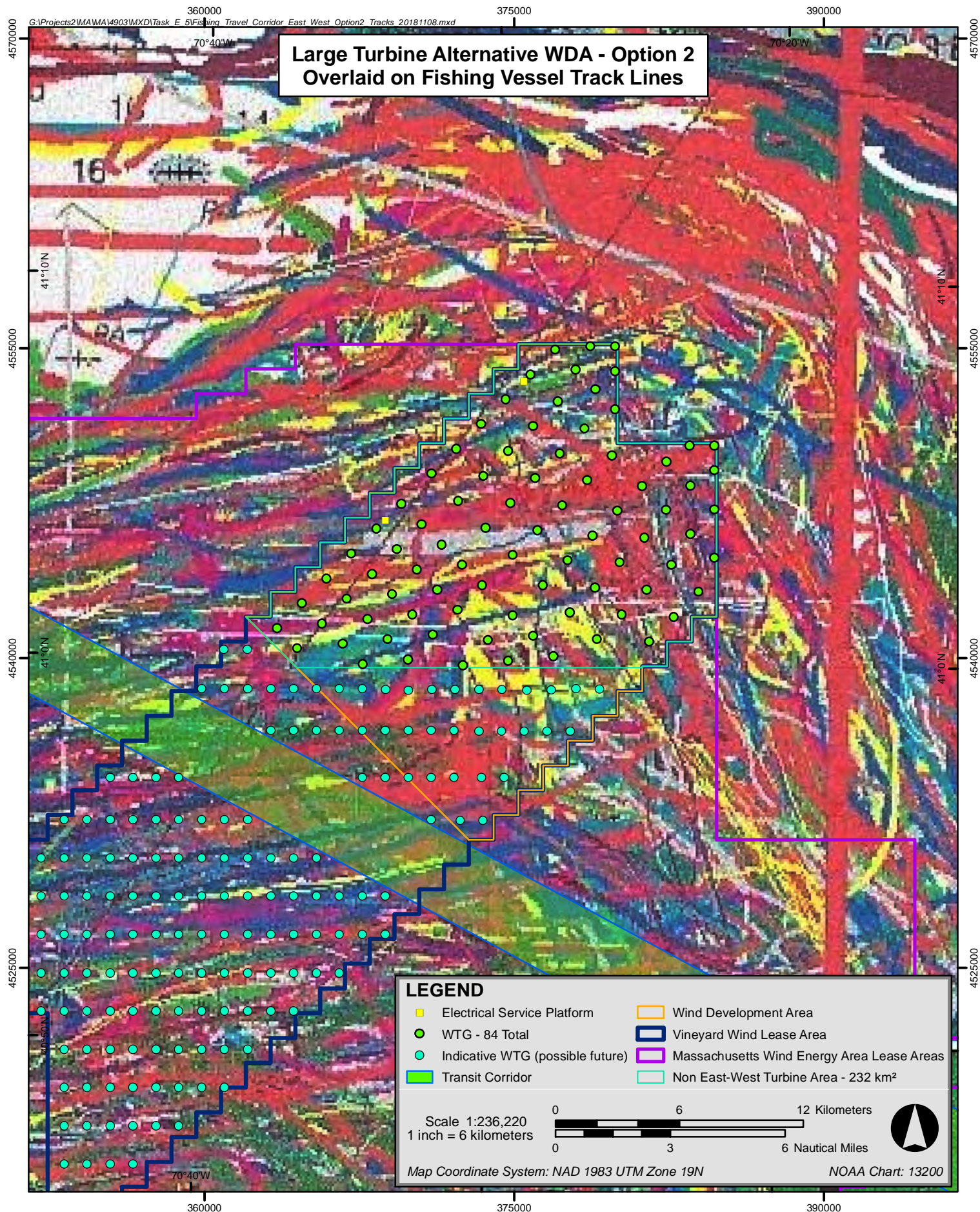
VINEYARD WIND

Attachment F – Large Turbine Alternative WDA Options Overlain on Tow Track Graphic



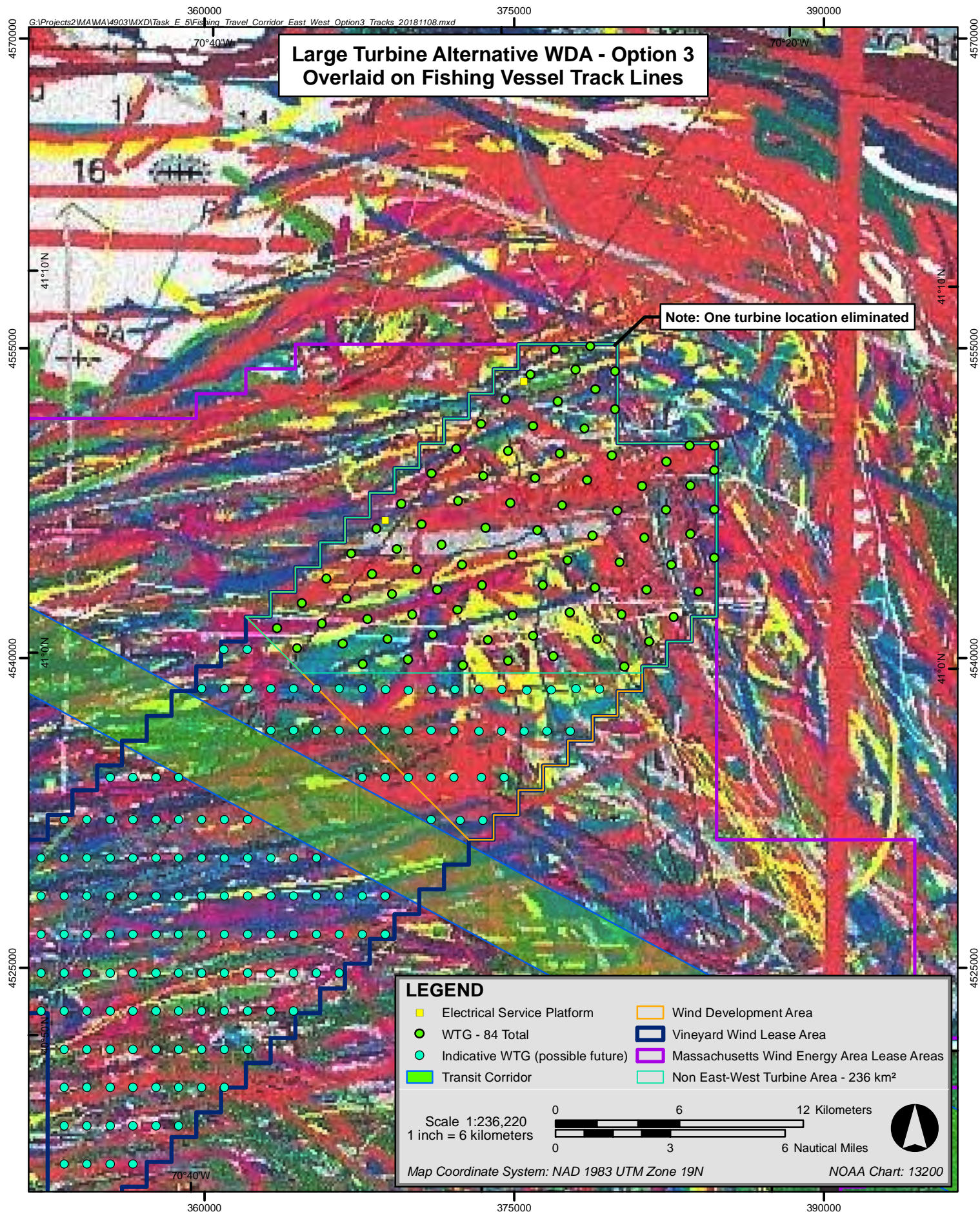
Vineyard Wind Project





Vineyard Wind Project



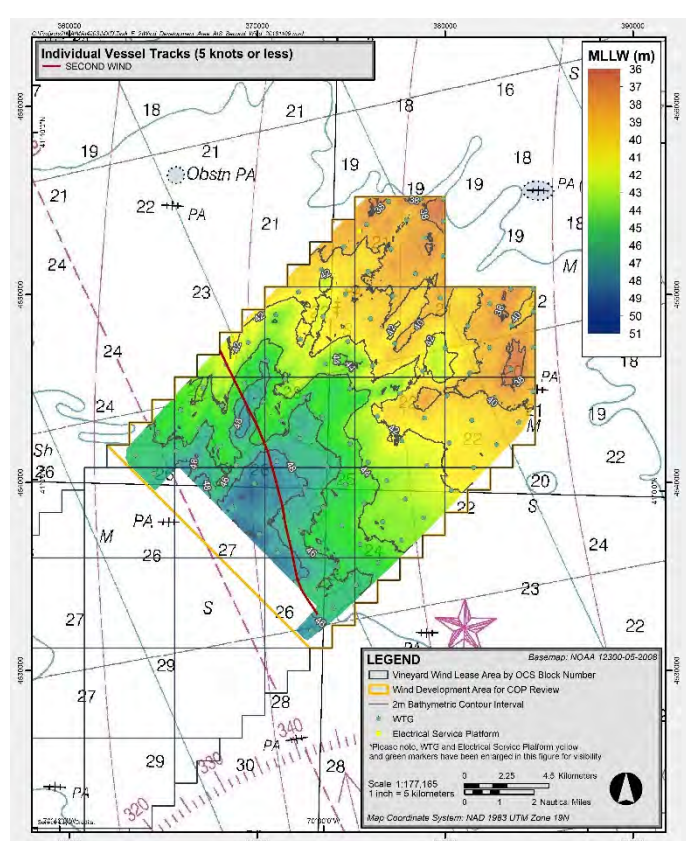
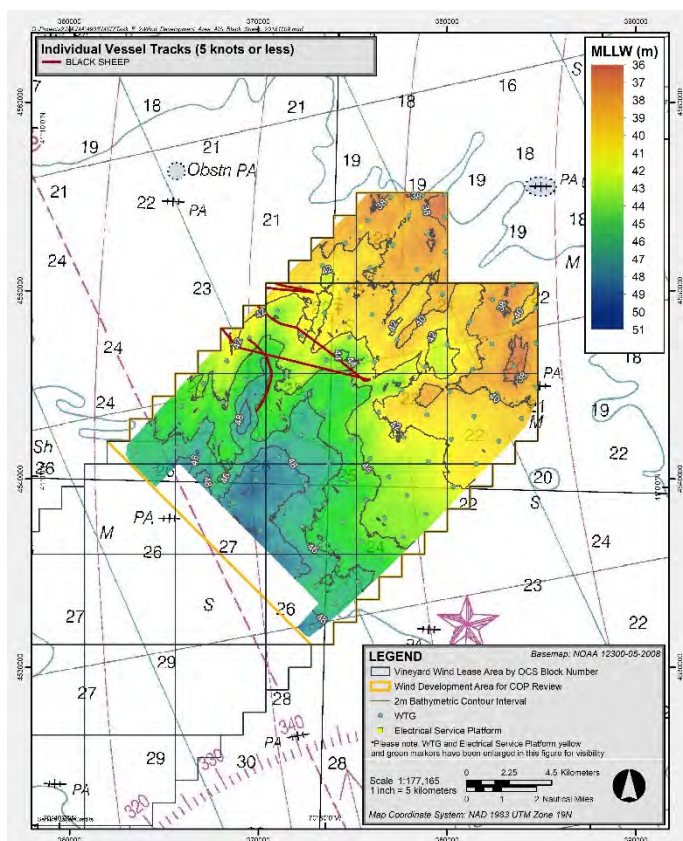
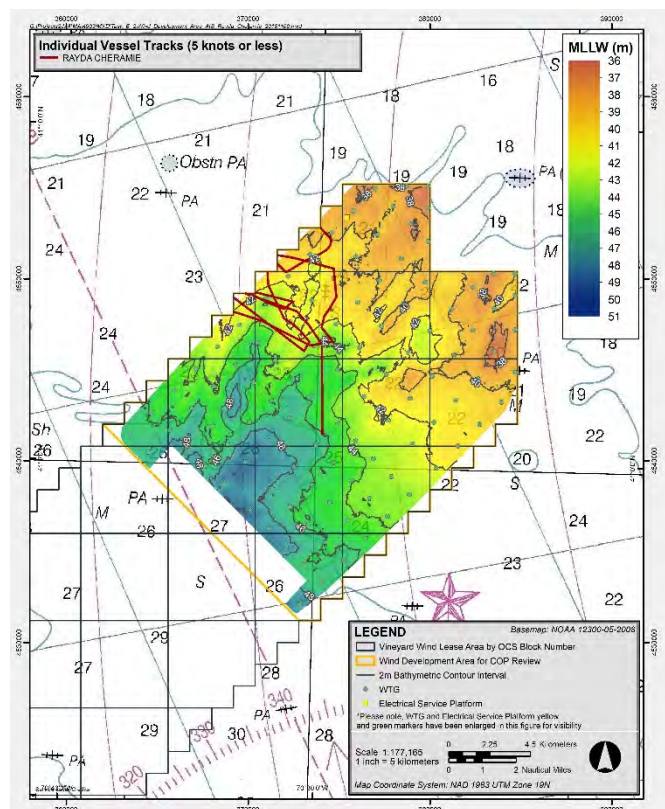
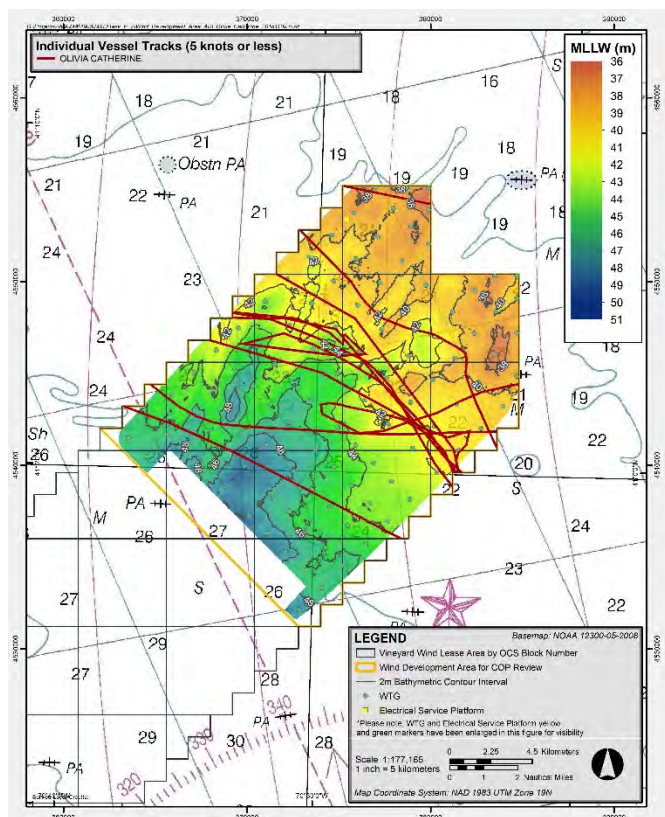


Vineyard Wind Project





Attachment G- Wind Development Area - AIS Vessel Track Data (2016)



Vineyard Wind Project



Figure 3
Wind Development Area – AIS Vessel Track Data (2016)



Conducting scientific research projects that support sustainable fisheries, aquaculture, and agriculture

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January 9, 2023

Dear Mr. Pentony,

Thank you for your response letter to our application for the second phase of research in the Great South Channel Habitat Management Area. We acknowledge your comments and appreciate the opportunity to respond to each. Coonamessett Farm Foundation Inc. (CFF), with our industry partners, plans to submit a new Exempted Fishing Permit (EFP) application that addresses the Greater Atlantic Regional Fisheries Office concerns described in your letter and includes the use of multibeam sonar coupled with optical survey tools and compensation fishing.

1) Letter Comment

After reviewing input and findings from the New England Fishery Management Council, its Habitat Plan Development Team (PDT), and Habitat Committee, we encourage you to revise your EFP application and modify the project methods and sampling design to incorporate these findings.

CFF Response

The methodology outlined in the recent EFP was modified from those of the original (#19066). In the current EFP, we addressed the primary concern of the PDT related to site selection. Our past project relied too heavily upon a fisherman's choice site selection. In our recent EFP we proposed using a stratified-random survey approach. The use of some dredging is important for this research because it directly links habitat associations to surfclam productivity, and fisheries value. Because surfclams are infaunal, non-extractive stock assessment options are not viable.

2) Letter Comment

CFF outlined several objectives for the pilot project, including the use of dredge-mounted cameras to document substrate, habitat features (e.g., sand waves, mussel beds), fishes, and invertebrates within the Rose and Crown area of the Great South Channel Habitat Management Area (HMA) and to create spatiotemporal distributions of biotic and abiotic habitat features to be used to inform future management actions regarding the HMA. The final report for the pilot project indicated that complex habitat is widespread throughout the project area, that clam dredges operate in areas with complex pebble-cobble bottom, and that the habitat is very heterogenous, even on small spatial scales.

CFF Response

The establishment of the HMA was based upon the premise that "complex habitat" was known to exist within the area. It was, therefore, unsurprising to us, or the PDT, that the pilot study documented pebble and cobble substrates, rocks, boulders, and mussel beds within the area. While habitat heterogeneity was high in some portions of the study area, it was low in others. The study showed that the eastern portion of the study area was predominantly characterized by sandy substrates, while the western portion contained high spatial heterogeneity with greater proportions of pebble/cobble substrates. These are benthic features that are not unusual in continental shelf waters off Massachusetts; therefore, the use of the term "complex habitat" is vague.

Our study area was 24 km² which represented less than 1% of the entire HMA (2566 km²). There are undoubtedly portions of the HMA where “complexity” will be higher and lower. Because the PDT does not have a clear definition of what is considered to be “complex habitat”, we intentionally avoided the use of this terminology within the final report from our study funded by EFP #19066, other than while citing the policy of the Habitat Management Council. A mixed sand/pebble/cobble sediment composition is typical of the entire region and does not in and of itself suggest a greater level of complexity than the surrounding waters.

3) Letter Comment

Catch per unit effort (CPUE) of clams during the study also increased with increased habitat complexity.

CFF Response

CPUE was high throughout the study area which is expected from an established surfclam fishing ground. It should be noted that CPUE of surfclams was also high in areas of predominantly sandy sediments and increased by 1.45 kg for every percent increase in pebble/cobble composition. The mean CPUE over sandy substrates without pebble/cobble was ~300 kg and increased to 400 kg at the highest fished level of pebble/cobble composition (85%). The CPUE of surfclams within the study area was, therefore, high over featureless sandy substrates. Our modelling indicates that in areas accessible to surfclam dredges, CPUE increases with increased pebble/cobble composition. However, a mixed sand/pebble/cobble sediment composition does not in and of itself suggest a greater level of “complexity.” Without a viable non-extractive stock assessment tool to survey areas inaccessible to surfclam dredges, it is not appropriate to generalize the model results to “complex habitat”. **Figure 1** from the report (Figure 11 in the final report) is provided below:

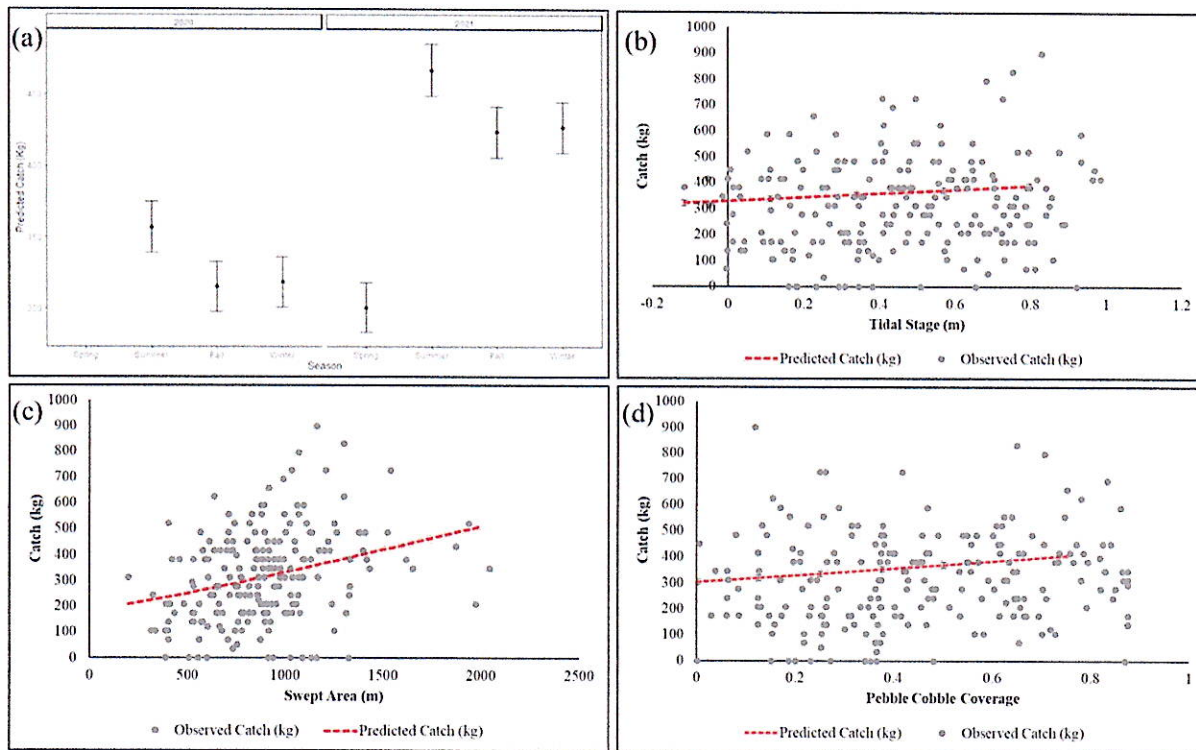


Figure 1. Surfclam catch prediction by season (a), tidal amplitude (b), swept area (c), and pebble/cobble coverage(d).

4) Letter Comment

Based on a review of the Phase 1 results, and feedback from the PDT, the Habitat Committee, and the Council, this project provided limited information that the Council was looking for to address the research objectives for the area. While the project provided some information, and can help inform the design of future research, the limitations of the study design and sampling approach reduce the utility of this information, and the potential to characterize and map habitat, which is necessary to inform future management decisions.

CFF Response

In some cases, the PDT has stated that our previous study methodology from EFP #19066 was insufficient to draw conclusions about the study area, while in other cases the PDT states that our findings showed that the area is “too complex” for fishing activity to occur. The primary critique of our study methodology from the PDT was that the site selection was based on fisherman choice rather than a stratified-random approach. In order to address this issue, we proposed a spatially- and temporally-stratified subsampling approach that provided even comparisons across all observed sources of variation. This eliminated much of the bias introduced in the overall dataset due to fisherman’s choice.

On November 15, 2022, we conducted a multibeam sonar mapping survey of a portion of the area to verify the patterns observed from our video mapping. The results are provided below, and are very similar overall, although the results from the video survey were able to provide higher resolution on substrate composition and habitat patches (**Figure 2**).

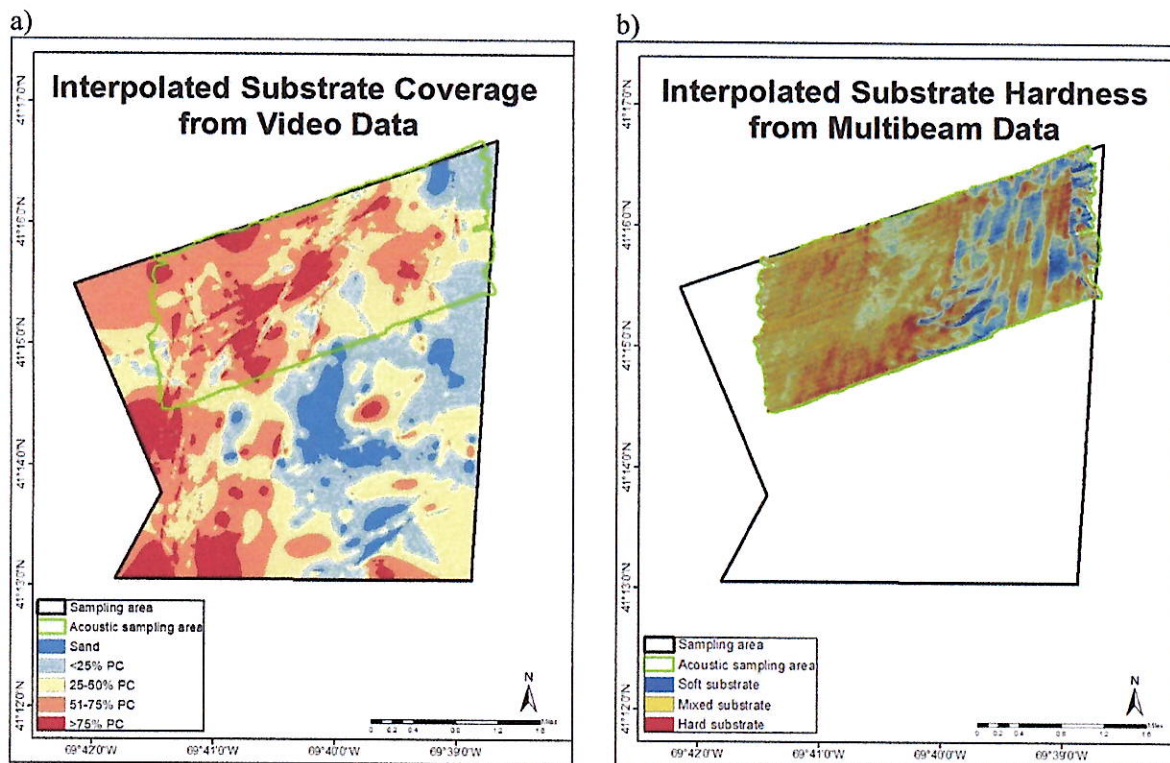


Figure 21. Interpolated substrate coverage map from the final report (a), interpolated backscatter from sonar data where the blue is the softest, least reflective substrates and red is the harder, most reflective substrates (b).

Additionally, as stated in our response to comment 1 above, our recent EFP request was modified based on concerns about fisherman's bias. In our recent EFP request we incorporated a stratified-random sampling approach that completely resolves this issue.

5) Letter Comment

Feedback from the PDT and Habitat Committee on the Final Report for EFP #19066 noted concerns about the methods and sampling design that make these results difficult to use for understanding habitat complexity. The PDT noted, and we agree, that fishery-dependent data collection is not ideal as a sampling method to achieve the Council's research objectives, given that it is biased towards locations where clams are more abundant, and because the act of fishing alters the habitats sampled (i.e., future mapping of habitat should not be done with clam dredges). The Committee concluded, and the Council concurred, that future projects should focus more on fishery-independent sampling.

CFF Response

See our response to Comment 4, we propose a spatially- and temporally-stratified subsampling approach that provided even comparisons across all observed sources of variation.

6) Letter Comment

While the EFP application includes a slightly improved sampling design to incorporate randomized sampling, it still relies heavily on the same fishery-dependent methods used in the pilot project. These methods are not effective to generate habitat maps for this area and do not fully address the Council's research objectives or the data and information needed to inform future management decisions.

CFF Response

Due to the consequential misuse of terminology throughout the decision letter, we find it necessary to clarify the distinction between the use of compensation fishing and fisheries dependent and independent sampling. This letter contends that the act of fishing would make the proposed study a fisheries-dependent survey design. We disagree. Statistically randomizing dredging locations provides a fisheries independent survey using a clam dredge as the survey gear. Fisheries independent data can be collected while providing compensatory fishing where landings are retained.

7) Letter Comment

We are also concerned about the potential impacts of these methods on habitat that the HMA was designed to protect.

CFF Response

This is a valid concern, but one which is currently uncertain and requires research. The Nantucket Shoals system is high-energy and temporally dynamic. The high degree to which natural disturbances within the area effects the seafloor, the effects incurred by fishing with a dredge have not been noted thus far beyond a 24-hour period. We saw evidence of this based upon seasonal trends within our previous study funded by EFP #19066. During our study, we were also not able to reliably detect dredge scars beyond 24 hours after the surfclam fishing occurred. Our video-based observations were deemed as insufficient evidence of this and suggested that acoustic methods were the only acceptable tool to investigate dredge-scar persistence. Our recent multibeam sonar survey (see our response to comment 4) showed no indication of dredge scars within the area less than one year following the dredging study.

8) Letter Comment

Further, based on the results and outcome of Phase 1, it is unclear how the new EFP application could sufficiently support or achieve the proposed fisheries-independent sampling.

CFF Response

See our response to comment 6, data simply collected with commercial equipment and landed for sale does not classify the data as fishery dependent if the sampling design is statistically valid.

9) Letter Comment

We acknowledge the funding challenges in completing more fishery-independent sampling, and we encourage you to continue to seek additional funding sources to support necessary work. Demonstrating that sufficient funding will be available to complete the proposed fisheries-independent sampling is important in order to evaluate the need, scope, and appropriateness of any fisheries-dependent sampling, and likely success of research, which should rely primarily on fisheries-independent methods.

CFF Response

Using landings to help fund research within the HMA does not preclude fisheries independent sampling (see our response to comment 6). Compensation fishing where landings are retained is still the most logical, efficient, inclusive, and immediate means to conduct research within the HMA. Research into the functionality of the HMA is necessary for Massachusetts residents' food and job security. While securing additional funding through a grant program could eliminate the necessity for compensation fishing, non-extractive methods cannot be used to relate surfclam distribution to substrate composition (see our response to Comment 1). Therefore, CFF would still be required to submit either an EFP or an LOA application to conduct the research.

10) Letter Comment

We encourage you to consider all of these trade-offs when revising and re-submitting your EFP application, balancing the amount and location of any compensation fishing based on Phase I results and the Council, Committee, and PDT feedback.

CFF Response

See our response to comment 1, site selection will be chosen in a stratified-random approach due to our own concerns and feedback we have received.

11) Letter Comment

We attached the recommendations and feedback on the pilot project (EFP #19066) from the Habitat PDT, the Habitat Committee, and the Council for your reference. For the reasons outlined above, and based on EFP regulations at 50 CFR 600.745 (b)(3)(i), I encourage you to revise the application consistent with the Council and PDT input, as well as secure external funding to ensure completion of fishery-independent research.

CFF Response

Our recent EFP request addressed the primary concern regarding the site selection from our first study under EFP #19066 (See our response to comment 1). A clarification needs to be made regarding compensation fishing as a mechanism to fund fisheries independent stock or habitat assessment. Fishing

gears are commonly used for fishery-independent assessments that incorporate stratified-random site selection. The act of landing catch does not in and of itself constitute a fisheries dependent methodology. We contend that using landings to help fund project-related tasks is still the most logical, efficient, inclusive, and immediate means to conduct research within the HMA. This is also the only option to directly link habitat associations to surfclam productivity, and fisheries value of these infaunal animals.

Thank you,

A handwritten signature in blue ink, appearing to be 'F. Almeida', with a long horizontal stroke extending to the right.

Frank Almeida
President, Board of Directors, Coonamesett Farm Foundation



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
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February 16, 2023

Stephan Ryba, Chief
Regulatory Branch
New York District, U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza
New York, New York 10278-0090

RE: Public Notice Number: NAN-2022--00776-EVI; Sunrise Wind, LLC

Dear Mr. Ryba:

We have reviewed Public Notice No. NAN-2022-00776-EVI dated December 16, 2022. The notice describes an application by Sunrise Wind, LLC to construct an offshore wind farm in the Atlantic Ocean within the approximately 67,252-acre (ac) BOEM Renewable Energy Lease Area OCS-A 0487, located approximately 18.9 mi. south of Martha's Vineyard, Massachusetts, approximately 30.5 miles (mi.) east of Montauk, New York (NY), and approximately 16.7 mi. from Block Island, Rhode Island. The export cable landfall is proposed to be located in the Town of Brookhaven with the final Point of Interconnection (POI) in Holbrook, Town of Islip, both in Suffolk County, NY. According to the notice, the proposed wind farm consists of up to 94 offshore wind turbine generators (WTGs) on steel monopile foundations at 102 locations, one offshore converter station (OCS-DC) on a pile jacket foundation, approximately 180 mi. of submarine inter-array cables (IAC) connecting the WTGs to the OCS-DC, and one temporary wave buoy. Scour protection and cable protection system (CPS) stabilization is proposed around the base of the WTGs and the OCS-DC, as well as along portions of the inter-array and export cable routes.

The Bureau of Ocean Energy Management (BOEM) is the lead federal agency for offshore wind development activities and, as such, is responsible for consulting with us under the Magnuson Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), and the Endangered Species Act (ESA). The consultation with us under section 7 of the ESA and the essential fish habitat (EFH) consultation under the MSA have not yet been initiated, and therefore, it is premature for us to offer comments specific to the consultations or any project specific EFH conservation recommendations at this time. However, we recognize that both NOAA Fisheries (NMFS) and the US Army Corps of Engineers (USACE) are cooperating agencies with BOEM on the development of the National Environmental Policy Act (NEPA) documents in accordance with the Title 41 of the Fixing America's Surface Transportation (FAST) Act, known as FAST-41, and that a number of activities including your public interest evaluation, the development of the NEPA documents, and the MSA, FWCA, and



ESA consultations must all occur concurrently. As a result, we are providing you with these technical assistance comments to assist you in your evaluation of the proposed project pursuant to your regulatory authorities and public interest review.

We have been working directly with BOEM, the lead federal agency, related to information needs for the required EFH consultation. On October 7, 2022, we provided BOEM with an additional information request in response to a draft EFH assessment received on August 8, 2022. Currently, we are working with BOEM to help ensure that the EFH assessment includes comprehensive project-specific descriptions of the proposed activities and sub-activities (e.g. seabed preparation, cable and foundation installation methods); a comprehensive, robust evaluation of potential effects of the proposed project, including direct, indirect, individual, cumulative, and synergistic effects of all the proposed activities; analyses of potential alternatives to the proposed action; and comprehensive analyses and discussion of effects to habitats and species outside of the direct lease area and cable corridors.

Provided we receive the information requested in time, we expect our consultation with BOEM to be initiated on April 17, 2023, with the submission of a complete EFH assessment and will provide our recommendations to BOEM by July 17, 2023. We understand USACE plans to use the EFH consultation to satisfy your responsibilities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. We recommend that any appropriate EFH and FWCA recommendations we make to BOEM as part of the MSA and FWCA consultations be incorporated as special conditions to any Department of the Army permits issued for the proposed activities. We also recognize the U.S. Environmental Protection Agency (EPA) jurisdiction and responsibilities under the Clean Water Act of 1972 to address in-water discharges under the National Pollutant Discharge Elimination System (NPDES) permit process for the OCS-DC.

Project Description

Wind Turbines/OCS-DC

According to the public notice, the proposed wind farm consists of up to 94 offshore wind turbine generators (WTGs) on steel monopile foundations at 102 locations. Each monopile foundation will be up to approximately 39 feet (ft.) in diameter and installed via pile driving with a hydraulic hammer. The OCS-DC will be constructed on a pile jacket foundation consisting of up to four legs with up to two pin piles per leg. Both leg and pin pile diameters are 8 ft. Each monopile foundation may be protected with approximately 1.03 ac. of rock scour protection, and the OCS-DC foundation may be protected with approximately 0.89 ac. rock scour protection, if necessary. Additional CPS stabilization, including additional rock cover on top of the scour protection, may be used where the inter-array cables connect into the foundations. The maximum footprint for each monopile foundation, including scour protection and CPS stabilization, will be approximately 1.06 ac. totaling 99.64 ac. for the entire lease area. The maximum footprint for the OCS-DC piled jacket foundation, including scour protection and CPS stabilization, will be approximately 2.64 ac. Although not discussed in the public notice, we understand that the applicant is also applying for a NPDES through the EPA for the OCS-DC, which includes an open loop cooling system, with an intake, and heated effluent that will operate for the life of the project.

Wave Buoys

A wave buoy will be installed within the lease area proximate to the WTGs in the eastern region of the wind farm and will remain in place during the installation and potentially after wind farm commissioning. The mooring configuration will be dependent on buoy type, water depth, and environmental considerations, but generally consists of an anchor weight (approximately 2,600 lbs.), mooring line, and are equipped with navigational lighting. The plans included in the public notice do not appear to identify the location of this proposed buoy.

A second wave buoy and up to three Acoustic Doppler Current Profiler's (ADCPs) will be installed nearshore along the export cable route near the HDD exit location within New York State (NYS) waters and will remain in place during the cable installation process. The wave buoy mooring configuration will be dependent on buoy type, water depth, and environmental considerations, but generally consists of an anchor weight (approximately 1,765 lbs.), mooring line, and are equipped with navigational lighting. The ADCP may be either an upward facing ADCP mounted on a seabed frame (approximately 220 to 1,100 lbs.) with a surface marker buoy or an acoustic system to release floats, or a bottom-mounted ADCP installed on the lower part of the submerged hull of a standard wave buoy. The location of this buoy also does not appear to be identified on the project plans in the public notice.

Inter-array Cables (IAC)

The IAC between the WTGs and the OCS-DC will consist of up to 180 mi. of 66 -161 kilovolt (kV), 200-mm-diameter high voltage alternating current (HVAC) cables. The cables will have a target burial depth of 3 to 7 ft. below the seafloor measured from the top of the cable. It is estimated that up to 15 percent of the IAC (approximately 27 mi.) may require cable protection that may include rock placement, mattressing, rock filter bags or grout bags. Where the IAC crosses existing telecommunications cables, a rock berm or concrete mattress separation layer and cover layer may be installed. The total maximum footprint of the IAC including secondary cable protection and cable crossing protection will be 154 ac. In certain areas along the IAC, boulder removal and sand wave leveling may need to take place prior to installation. Boulder removal will either be via boulder grab or boulder plow method. Sand wave leveling will either include dredging via suction hopper dredger or controlled flow excavation within the cable corridor. It is estimated that up to 10% of the IAC route (approximately 18 mi.) may require boulder removal, and up to five percent (approximately 9 mi.) may require sand wave leveling. The total acreage of habitat to be impacted by boulder relocation and sand leveling is not provided in the public notice.

Export Cable:

The export cable will consist of approximately 104.6 mi. of two approximately 200-mm diameter, 320-kV submarine export cables and a fiber optic cable bundled together located within one approximately 98-ft.wide cable corridor. Approximately 99.4 mi. of export cable will be installed within federal waters and the remaining 5.2 mi. will be within NYS waters. Outside of NYS waters, the cable will be buried to a minimum coverage depth ranging from three to seven ft. measured from the top of the cable to the seafloor. The export cable will enter NYS territorial waters at a point three nautical miles (nm) offshore and traverse up to 4.8 mi. in a northwest direction toward Smith Point County Park in Town of Brookhaven, Suffolk County,

NY. Exclusive of the portion of the cable installed via horizontal directional drill (HDD), the cables will be buried to a minimum depth of 6 ft. measured from the top of the cable below the seabed.

It is estimated that up to five percent of the cable in this area (approximately 5 mi. in federal waters and 0.24 mi in NYS waters) may require secondary cable protection, such as a rock berm or concrete mattress separation layer and cover layer, where it will cross existing telecommunications cables including seven known and two unknown crossing locations. The total maximum permanent footprint of the export cable, including secondary cable protection and cable crossing protection, between the OCS–DC and the NYS waters boundary is approximately 52.7 ac. In NYS waters, in cases where target burial depth cannot be achieved, secondary cable protection (e.g., 9.8-ft wide by 19.6- ft. long by 0.9-ft high marine mattresses with either rock or concrete) may be installed totaling approximately 2,346 CY for all secondary cable protection. The total maximum permanent footprint of the export cables in NYS waters including secondary cable protection is approximately 2.3 ac.

In certain areas along the export cable route, boulder removal and sand wave leveling may need to take place prior to installation. Boulder removal will either be via boulder grab or boulder plow method. Sand wave leveling will either include dredging via suction hopper dredger or controlled flow excavation within the cable corridor. It is estimated that up to five percent of the route (5 mi.) in federal waters and 30% (1.4 mi.) of the route in NYS waters may require boulder removal. Boulder removal will either be via boulder grab or boulder plow method. Sand wave leveling may be required in up to 10% (10 mi) in federal waters. No sand-wave leveling will occur within NYS waters. The total acreage of habitat impacted by the boulder removal and sand wave leveling is not provided in the public notice.

Horizontal Directional Drilling (HDD):

Two segments of the export cable will be installed via HDD. One segment will extend from the HDD entry pit located at Smith Point County Park to the HDD exit pit located offshore in the Atlantic Ocean. The borehole will be approximately 44 inches in diameter and will consist of three, HDPE conduits measuring approximately 3,290 ft. long (0.6 mi.). The HDD exit pit is located approximately 2,225 ft. seaward of the Mean High-Water Line [MHWL]. At the offshore HDD Exit Pit, approximately 4,900 CY of material will be excavated from within an approximate 164-ft. x 49-ft. x 16-ft. area (8,036 sq. ft.) area. In order to ensure the excavated pit does not naturally backfill, a trench box, approximately 20-ft. by 50-ft. in size (1,000 sq. ft.) will be placed within the 8,036 sq. ft. excavated area.

Approximately 2,640 ft. (0.4 mi.) of the onshore export will be installed via HDD under the Long Island Intracoastal waterway (Narrow Bay) from the upland entry point located at Smith Point County Park to the upland punch-out point at Smith Point Marina. The borehole will be approximately 36 inches in diameter and will consist of six (6) HDPE conduits. The cables will be installed approximately 42 ft. below the existing seabed of the waterway. The second waterway crossing at Carman's River will consist of installing approximately 36 ft. of the onshore export cable via HDD. The cable will be installed a minimum of 40 ft. below an existing culvert located within the waterway.

Temporary Landing Structure:

A temporary fixed pier will be installed within the Narrow Bay/Long Island ICWW to support the transport of heavy construction materials to the ocean-side export cable landing site at Smith Point County Park. The fixed pier will be approximately 16-ft. wide by 242-ft. long and will be secured to the seabed by approximately 21 steel piles each measuring 16 inches in diameter. It is anticipated that approximately 4.35 CY of flowable concrete will be installed within the steel pipes below the plane of Spring High Water over an approximate 150 sq. ft. area. The piles will be placed using a crane barge with four spuds each with a diameter of 30 inches.

According to the public notice, no impacts to onshore wetlands are proposed as part of the project.

General Comments

Given the size of the proposed project, substantial impacts to NOAA trust resources may occur as a result of project construction, operation, and decommissioning. Of particular concern are potential impacts to spawning and early life stage habitats of commercially and recreationally important species and to sensitive habitats such as complex bottom (cobble and boulder habitat), sand waves and sand ridges, shellfish beds, and submerged aquatic vegetation. To avoid and minimize adverse impacts to these habitats we typically recommend: 1) the project be sited outside of areas of sensitive and complex habitats; and 2) in-water work time of year restrictions during migration, spawning and early life history development periods.

For this project, there is the potential for impacts to spawning and early life stage habitats of multiple managed species and NOAA trust resources including Atlantic cod (*Gadus morhua*) and winter flounder (*Pseudopleuronectes americanus*), summer flounder (*Paralichthys dentatus*), and several species of shellfish. We also have concerns about the potential effects of the project on commercial and recreational fishing activities within the project area. This is especially concerning along the alignment of the export cable where boulder removal and relocation has the potential to significantly impact fishing activities particularly those associated with the groundfish, skate, monkfish (*Lophius americanus*), silver hake (*Merluccius bilinearis*), scup (*Stenotomus chrysops*), and squid fisheries.

As discussed below, alternatives that avoid and minimize impacts to aquatic habitats, fisheries, and fishing activities should be identified, evaluated fully, and implemented unless it can be demonstrated that they are not practicable. This includes cable alignments and installation methods that minimize impacts to sensitive habitats and life stages. As is standard practice with many coastal development activities that you authorize under your authorities, compensatory mitigation should be required to offset unavoidable losses of aquatic habitats and ecological functions. We have recently released a [comprehensive mitigation policy for NOAA trust resources](#) that complements the existing 2008 USACE and EPA Compensatory Mitigation Rule (33 CFR Parts 325 and 332 & 40 CFR Part 230). Both of these documents should be used to inform the development of a compensatory mitigation plan for unavoidable aquatic resource impacts.

Alternatives

The Clean Water Act Section 404(b)(1) Guidelines indicate that a Department of the Army permit should reflect the least environmentally damaging practicable alternative (LEDPA) (40 CFR 23.10(a)). To identify the LEDPA, a full range of practicable alternatives, defined by the purpose and need for the project should be evaluated and the range of alternatives should include adjustments to the project location/alignment in addition to design modifications that avoid or further minimize impacts. Based on the information available for review and other information provided in the Construction and Operations Plan (COP) and DEIS, it does not appear that the proposed project represents the LEDPA. In particular, turbine micro-siting, alternate export cable routes and export and inter-array cable installation methods should be considered that avoid and minimize impacts to aquatic resources.

Further, as described in the NOAA Mitigation Policy for Trust Resources (NAO 216-123, Section 3.06) and consistent with the Section 404(b)(1) Guidelines impact avoidance and minimization must be considered and fully and fairly evaluated through the alternative development process before minimization measures and compensatory mitigation are considered; this is known as the mitigation sequence. This step-wise approach first focuses on the avoidance of adverse impacts, followed by the incorporation of minimization measures, limiting the degree and magnitude of adverse impacts. This approach is especially important where a number of ecologically valuable habitats including sensitive spawning areas are located within the proposed wind farm area and export cable corridor.

Aquatic Resources

As mentioned above, the project area provides habitat for a wide variety of commercially and recreationally important fish species and ecologically important habitats. The ones listed below are just a small sample we are highlighting for your awareness during your review of the application for this project. Because the project plans contained in the public notice do not include the delineation of aquatic resources in the area such as shellfish beds, submerged aquatic vegetation, sand ridges and complex bottom, we are providing our comments related to aquatic resources based upon information provided to us by the developer and BOEM.

Atlantic Cod

Atlantic cod form discrete aggregations during their spawning season, which varies based on location. BOEM is currently funding a study examining the distribution and habitat use of soniferous fish, focusing on cod spawning aggregations on Cox Ledge that includes the project area. The current results of this study, as well as historical data and developer funded surveys, indicate that spawning activities of Atlantic cod occur within and adjacent to the lease area on Cox Ledge between November and April (Van Hoeck et al. in press). Atlantic cod exhibit high site-fidelity to spawning areas and complex behavior during spawning; forming leks and haystacks during active spawning that can extend for weeks to months (McBride and Smedbol 2022). Post-spawn, studies conducted on Georges Bank found cod settlement begins approximately 3-4 months. Early life stages of Atlantic cod require complex habitats, particularly pebble, cobble and boulder habitats. Minimizing seafloor disturbances (e.g. seafloor preparation) within areas known to support cod spawning aggregations and limiting construction related

noise, particularly pile driving activities, and other in-water activities that could disrupt spawning activity between November and April would minimize potential impacts to cod spawning. Further, due to uncertainties regarding the impact of altering the characteristics of current spawning locations through construction, and concerns over operational noise (both turbine generated noise and vessel/maintenance) the location of turbines within identified spawning areas should be avoided.

Atlantic cod populations are in decline and significantly below target levels. The complex habitats used by this and other species are more vulnerable to long-term and permanent impacts from offshore wind development. The Atlantic Cod Stock Structure Working Group recently identified five biological stocks in U.S. Waters, which includes a Southern New England stock (McBride and Smedbol 2022); thus, it is important that impacts to these habitats from the project be minimized to reduce the risk of population level impacts on the reproductive success of vulnerable cod populations. We recognize the limits of the USACE's jurisdiction in federal waters, but bring this concern to your attention due to the potential impacts to valuable fisheries habitat, as well as impacts to commercial and recreational fishing within the project area.

Winter Flounder

Winter flounder is one of the federally managed species we often comment on in our coordination with you on coastal development projects within the New York District waters. Our concern for this species is based upon a number of factors, but their somewhat unique life history is the main concern, particularly that of the eggs and larvae in the estuaries. Winter flounder ingress into spawning areas within mid-Atlantic estuaries when water temperatures begin to decline in late fall. Tagging studies show that most return repeatedly to the same spawning grounds (Lobell 1939, Saila 1961, Grove 1982 in Collette and Klein-MacPhee 2002). Winter flounder typically spawn in the winter and early spring, although the exact timing is temperature dependent and thus varies with latitude (Able and Fahay 1998); however movement into these spawning areas may occur earlier, generally from mid- to late November through December.

Winter flounder have demersal eggs that sink and remain on the bottom until they hatch. After hatching, the larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Winter flounder larvae are negatively buoyant (Pereira et al. 1999) and are typically more abundant near the bottom (Able and Fahay 1998). A study by Berry et al. (2011) found decreasing hatching success with increased sediment burial depths of winter flounder eggs. Further, young-of-the-year flounder tend to burrow in the sediments rather than swim away from threats. As a result, these life stages are less mobile and thus more likely to be impacted by sediment disturbing activities including pile driving and eventual removal associated with the installation of the temporary landing structure at Smith Point County Park. As a result, avoiding in-water construction activities such as seafloor disturbances and silt-producing activities when early life stages are present, generally from January 1 to May 31 is often the preferred method of avoiding and minimizing adverse to these life stages. This seasonal restriction should be applied in-water work within Narrow Bay/Long Island ICWW.

Longfin Inshore Squid

Longfin inshore squid (*Doryteuthis pealeii*) spawn throughout the New York Bight, migrate to shallow waters starting in April, and continue through June or July when they return to deeper

shelf waters; early life stages are found in coastal waters and throughout the project area (Hatfield and Cadrin 2002). Egg masses are demersal and are typically attached to low-relief structure (e.g. rocks, small boulders) on sandy or muddy substrate in water depths less than 50 ft. (Jacobson 2005). Recent research indicates that spawning may be concentrated in coastal waters off the South Shore of Long Island (D. Stevenson, personal communication, 2018) which could result in increased vulnerability of longfin inshore squid EFH to cable installation activities including pre-sweep and pre-trenching activities as well as dredging. Longfin squid demonstrate elaborate spawning behavior that could be disturbed by construction activities (Shashar and Hanlon 2013). A time of year restriction, generally from May 1 to June 30, for cable installation activities in the waters offshore of Long Island is recommended.

Rocky Habitats

Intertidal and subtidal gravel (i.e. mixed sand, pebble, cobble, and/or boulder) habitats with added habitat complexity from invertebrate communities and macroalgal cover serve as important shelter and forage habitat for a variety of species including Atlantic cod, black sea bass (*Centropristis striata*), red hake (*Urophycis chuss*), striped bass (*Morone saxatilis*), cunner (*Tautoglabrus adspersus*), tautog (*Tautoga onitis*), and scup. The structural complexity of rocky habitats is important for fish as they provide shelter and refuge from predators. Rocky habitats provide a substrate for macroalgal and epibenthic growth that serves as additional refuge for juvenile fish. The complexity of rocky habitats with, and without, macroalgal and epifaunal cover have been well demonstrated as important habitats for juvenile and adult life history stages of Atlantic cod, Atlantic pollock (*Pollachius virens*), red hake, American lobster (*Homarus americanus*), cunner, and tautog.

Due to their important role for multiple marine organisms, impacts to rocky habitats should be avoided wherever feasible. This is particularly true for rocky habitats supporting macroalgae and/or epifauna. To avoid and minimize impacts to complex habitats, we typically recommend measures such as the micro-siting of structures (e.g. WTGs, inter-array cables, export cables, etc.), and/or structure relocation or removal when micro-siting would not avoid or minimize permanent impacts to complex, rocky habitats. Other measures that may avoid and/or minimize impacts to these habitats include: 1) restricting anchoring in these habitats; and 2) minimizing scour and cable protection and/or choosing materials that match the existing habitat characteristics in areas where full avoidance is not feasible.

Shellfish

Shellfish provide an important ecological role through water column filtration, sediment stabilization as well as supplying habitat for multiple fish species. They are also an important food source for federally managed species such as skates, bluefish (*Pomatomus saltatrix*), summer flounder, and windowpane flounder (*Scophthalmus aquosus*), winter flounder, and scup. We are especially concerned about impacts to commercially harvested areas of Atlantic surfclam (*Spisula solidissima*) along the south shore of Long Island. We do not have current data on the densities of surfclams or ocean quahogs (*Arctica islandica*) in this area, but data from the surveys conducted by USACE and others for beach nourishment activities along the south shore of Long Island indicate that Atlantic surfclams may be present in the area of the export cable route into Long Beach, NY.

We are concerned that surfclam and ocean quahog beds will be impacted by the installation of the export cables, particularly in areas where a controlled flow excavator or hopper dredge will be used. Shellfish such as these are vulnerable to seafloor disturbances, particularly those that result in elevated levels of suspended sediments, which can interfere with spawning success, feeding, and growth. Further, sessile species and life history stages are highly vulnerable to smothering and activities that may result in dislodgement of recently settled individuals. As a result, the applicant should conduct a shellfish survey along the proposed export cable route and areas of high densities of these species should be avoided to the extent practicable. Post-construction monitoring and the restoration of shellfish beds should be required where the seabed preparation activities have impacted areas with high to moderate densities of shellfish or where the beds have not recovered to post-construction conditions

Submerged Aquatic Vegetation (SAV)

SAV has been mapped near the proposed temporary landing structure at Smith Point County Park and along the export cable route where HDD methods are proposed under Narrow Bay between Smith Point County Park and the Smith Point Marina. SAV habitats are among the most productive ecosystems in the world and perform a number of irreplaceable ecological functions that range from chemical cycling and physical modification of the water column and sediments to providing food and shelter for ecologically and economically important organisms. SAV beds, such as those observed in the project area, can dampen wave energy, reduce current velocities, and facilitate sediment deposition over large spatial scales. SAV can also improve water quality by assimilating excess dissolved nitrogen and phosphorus and promoting sediment denitrification. The Mid-Atlantic Fishery Management Council designates SAV as a Habitat Area of Particular Concern (HAPC) for summer flounder. The New England Fishery Management Council has also highlighted its importance as EFH for winter flounder in the text description of EFH for winter flounder in their Omnibus Habitat Amendment 2 (NEFSC 2018).

As you are aware, increases in suspended sediments and the subsequent reductions in water transparency caused by construction activities can limit light attenuation and may result in losses of this important resource. As a result, we generally recommend the avoidance of activities that generate suspended sediments in and near SAV beds when the vegetation is actively growing and flowering between April 15 to October 15 to avoid affecting the plant's ability to photosynthesize and its growth and survival. The minimum recommended buffer between sediment generating activities and the edge of any SAV beds is 250 ft. if the sediments are 95% sand and 500 ft. if less than 95% sand. Best management practices (BMPs) should also be used to minimize turbidity and reduce indirect effects on SAV beds.

Habitat Areas of Particular Concern

The project area overlaps with one designated and one proposed HAPC. HAPCs are a subset of EFH that are especially important ecologically, particularly susceptible to human-induced degradation, vulnerable to developmental stressors, and/or rare. As stated above, summer flounder HAPC has been designated in the project area. The summer flounder HAPC includes all native species of macroalgae, SAV, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH.

On June 30, 2022, the New England Fishery Management Council approved a new HAPC for Atlantic cod spawning and complex habitats that includes the entirety of the RI/MA Wind

Energy Area (WEA) and extends 10 km beyond the WEA. The HAPC is focused on known and potential cod spawning areas, and complex habitats (as defined in our [Fish Habitat Mapping Recommendations](#)). The rationale and background for the HAPC is detailed in the New England Fishery Management Council's [Southern New England HAPC Preliminary Submission document](#). NOAA Fisheries has received the submission and we expect rulemaking to be completed by early 2023. Wherever feasible, impacts to HAPCs should be fully avoided, and where full avoidance is not feasible, measures to minimize and mitigate impacts should be fully evaluated and considered.

Adverse Effects to Aquatic Resource

The activities described in the public notices will have adverse effects on NOAA trust resources, most notably those described above. Below, we highlight a number of activities that warrant close consideration and a thorough evaluation of alternatives to avoid and minimize adverse impacts. Pre-and post-construction sampling and monitoring, habitat restoration and compensatory mitigation may also be necessary to offset unavoidable adverse effects, especially when the activity results in the permanent loss or degradation of important habitats such as complex bottom, shellfish beds, sand waves, sand ridges and shoals.

Export Cable Installation Activities

We are concerned about the adverse impacts the export cable installation activities will have on NOAA trust resources. Of particular concern are the impacts of cable installation on complex bottom (boulder and cobble habitat) and sand waves in both state and federal waters. These complex habitats are important for a number of commercially and recreationally important species, are unlikely to recover from disturbance, and should be avoided to the maximum extent practicable. From the information in the public notices, it appears that the export cables will cross these valuable habitats in a number of locations. Although the general acreages of impacts are provided, the locations of the areas to be impacted and the specific habitats affected are not. This limits our ability to provide more specific technical assistance. From the information provided, it is unclear if sand waves or sand ridges will be impacted by the project. These terms are not interchangeable and impacts to the larger, more stable sand ridges are less likely to recover naturally. The public notices also does not discuss how impacts to these areas have been avoided or minimized and if, and how these important habitats will be restored. In areas where complex bottom and sand waves and sand ridges exist, alternate alignments should be developed to avoid these important habitats, particularly since natural recovery of these features may not occur.

From the information available about controlled flow excavators, it appears that this equipment uses water to push sediments away from an area dispersing them into the water column, similar to water jetting. This will impact NOAA trust resources in a number of ways including the physical destruction of organisms, including prey species, and the permanent or long-term loss of complex habitat in areas where sand waves and sand ridges exist. In addition to the concerns over the effects of sedimentation on shellfish beds identified above, the use of controlled flow excavators may result in sedimentation and burial of eggs and larvae of winter flounder, squid, and other fish species, leading to reduced hatching and survivorship due to mechanical crushing, abrasion, and low oxygenation (hypoxia). The demersal eggs of winter flounder, squid, and ocean pout (*Zoarces americanus*) are particularly vulnerable to burial by sedimentation (Newcombe and Jensen 1996; Berry et al. 2011; Navarro et al. 2016; Seudel et al. 2017). Longfin

squid eggs or “mops” are attached to the seabed and need high flows and oxygenation for successful hatching; physical disturbance during the late stages of embryonic development can cause premature hatching and high mortality (Boletzky and Hanlon 1983). Similar impacts are expected if a hopper dredge is used to prepare the seabed, although it is not clear if the width of the area impacted or the scope of the sediment plume will be the same. The applicant should provide additional information to allow for a more complete evaluation of the effects of the two methods. Should a hopper dredge be used to prepare the seabed for the cable, the applicant should minimize the area to be dredged to the maximum extent practicable and provide information on the placement site for the dredged material.

The relocation of boulders and cobble from within the export cable and IAC corridors will also impact NOAA trust resources including Atlantic cod, black sea bass, Atlantic pollock, red hake, American lobster, cunner, and tautog. As discussed above, due to their ecological importance and the inability of these habitats to recover naturally, impacts should be avoided and minimized to the maximum extent practicable. This includes minimizing the amount and extent of boulder clearing necessary by avoiding these areas when installing the export cables and IAC and by avoiding anchoring in these areas. In areas where boulder clearing cannot be avoided, the minimum area necessary should be cleared; boulders and cobble should be moved as close to the impact area as practicable in areas in or immediately adjacent to existing similar complex bottom. This will reduce the permanent conversion of sandy habitat through the relocation of boulders, which could not only alter habitat use by species, but also associated predator/prey interactions. While some species may benefit from such habitat alteration, others will be negatively affected. Therefore, it should not be presumed that the expansion of rocky habitats through boulder relocation will benefit all species or EFH.

Boulders and cobble should be placed in a manner that does not hinder navigation or impede commercial fishing operations, particularly the fisheries referenced above which use bottom-tending mobile and fixed gear that could get snagged on boulders that are relocated and cause safety concerns for vessel operations. In particular, use of a boulder plow should be avoided to the extent possible since this type of equipment can have a greater impact on complex bottom and may not be necessary based upon information from a recent meeting with the applicant. In addition, to the extent possible, impacted areas of complex bottom should be restored to pre-construction conditions as these areas will not naturally recover.

Offshore Converter Station (OCS-DC)

We recognize that the offshore converter station will be located within federal waters, so the USACE’s jurisdiction over its construction and operation is limited. However, we have significant concerns about entrainment and impingement effects for the life of the project on the early life stages of a number of federally managed species, but most specifically Atlantic cod. Atlantic cod exhibit high site-fidelity and form aggregations to spawn. Eggs are subject to epipelagic drift prior to hatching one to three weeks after spawning. Egg buoyancy and water column stratification affects their dispersal from the spawned location (McBride and Smedbol 2022). The construction and operation of the OCS-DC proposed by the applicant, as well as other similar facilities proposed by other lessees within the overall RI/MA WEA, will result in the entrainment and impingement of released cod eggs in the lease area. As a result, the placement of these structures within Atlantic cod spawning habitat should be avoided. The

project as proposed has sited this OCS-DC in an area that overlaps with and is immediately adjacent to documented cod spawning activity; adverse impacts could be reduced by relocating the OCS-DC. The best available technology should also be used to minimize impingement and entrainment of the early life stages of all species that occur within the project area and retrofitting the OCS-DC to accommodate new technologies that reduce impingement and entrainment should be required as they become available. We understand that EPA has jurisdiction and responsibilities under the Clean Water Act of 1972 to address in-water discharges under the NPDES permit process, but we offer this information for consideration during your public interest review due to the potential consequences to important commercial and recreational fisheries.

Scour Protection

The placement of scour protection along the export and inter-array cable routes and around the monopile and jacket pile foundations will alter the habitat for a wide variety of species by converting sandy bottom to structure and by altering the characteristics of the existing complex bottom. As discussed above, will result in the permanent conversion of sandy habitat through the relocation of boulders, which could not only alter habitat use by species, but also associated predator/prey interactions. In addition, due to potential consequences of altering the characteristics of current Atlantic cod spawning locations, the use of scour protection in these areas should be minimized to maximum extent practicable. Any necessary scour or cable protection within complex habitats (i.e., areas with boulders $\geq 0.5\text{m}$, and/or medium to high multibeam backscatter returns) should use natural, rounded stone of consistent grain size to match existing conditions. The placement of engineered stone (e.g., riprap; cut, crushed, or graded stone; etc.) or concrete mattresses within complex habitats should not be permitted, and any required use of engineered stone or concrete mattresses within complex habitats should be mitigated through the addition of a natural, rounded stone veneer. At a minimum, the exposed surface layer should be designed and selected to provide three-dimensional structural complexity that creates a diversity of crevice sizes (e.g., mixed stone sizes, natural rounded stone veneer) and rounded edges (e.g., tumbled stone, or natural round stone veneer).

Wave Buoys

As noted above, the project plans included in the public notice do not appear to identify the location of the proposed buoys. We are particularly concerned about the buoy proposed within the lease area. While we recognize the limits of the USACE's jurisdiction, it appears from the schematic drawing of this buoy that the sweep of the mooring chain on the seafloor could damage sensitive complex bottom habitat, especially areas used by Atlantic cod for spawning. Even if the buoy is removed after construction of the wind farm, which may not occur based upon the information in the public notice; it is unlikely that these areas will recover naturally. As a result, the wave buoy should be located outside of complex bottom and Atlantic cod spawning areas.

Temporary Landing Structure

As noted above, SAV has been mapped near of the proposed temporary landing structure at Smith Point County Park. Based upon the SAV survey done by the applicant's consultants in October 2022, it does not appear that the proposed pier structure will directly impact SAV. However, the construction and use of the proposed temporary landing structure may result in the

loss or degradation of the SAV due to water increases in turbidity and sedimentation during pile driving and removal and shading from construction equipment. Increased turbidity and the subsequent deposition of the suspended sediments from the installation and removal of the piles associated with the temporary landing structure can also smother the winter flounder eggs. To minimize these adverse effects, seasonal work restrictions described above and best management practices listed below should be included in the project plans and schedule.

HDD

As discussed above, approximately 2,640 ft. of the onshore export cable will be installed via HDD under the Long Island Intracoastal waterway (Narrow Bay) from the upland entry point located at Smith Point County Park to the upland punch-out point at Smith Point Marina. SAV has been mapped along portions of this route. We recognize that the use of HDD avoids direct impacts to this important habitat, but we remain concerned about impacts that could occur if there is an accidental release of drilling muds during cable installation (frac-out). As a result, a frac-out plan should be developed with particular attention to protecting SAV. The plan should include restoration and compensatory mitigation measures should SAV be damaged if a frac-out occurs.

Summary of Seasonal Restrictions and Other Technical Assistance Recommendations

1. Avoid in-water work including pile driving from January 1 to May 31 in the Narrow Bay/Long Island ICWW.
2. Avoid in-water work in the lease area from November 1 through April 30 to protect sensitive life stages for Atlantic cod.
3. Avoid in-water work from May 1 to June 30 near the cable landing site due to longfin squid spawning and fishery operations in the nearshore area
4. All pile driving activities should be installed in a manner that minimizes turbidity and noise.
5. Avoid activities that generate suspended sediments in and near SAV beds from April 15 to October 15. The minimum recommended buffer between sediment generating activities and the edge of any SAV beds is 250 ft. if the sediments are at least 95% sand and 500 ft. if they are less than 95% sand.
6. Do not moor vessels in SAV beds or other complex habitats.
7. All vessels should float at all stages of the tide.
8. Avoid staging equipment in wetlands.
9. Develop frac-out plans for all areas where HDD is proposed to be used.
10. Surfclam and ocean quahog areas should be delineated and the export cable route should avoid areas of concentrated shellfish.
11. The export cable should avoid sand waves, sand ridges and shoals. If these areas cannot be avoided, seabed preparation activities using a controlled flow excavator should not be permitted, the crossings of these areas should be the shortest distance possible, and the impacted areas should be restored.
12. Locate WTGs, OCS-DC and the wave buoy outside of complex bottom and habitat for Atlantic cod spawning.
13. Use micro-siting to avoid placing turbines, installing cables, and anchoring in areas of complex bottom.

14. Boulders and cobble should be moved as close to the impact area as practicable in areas in or immediately adjacent to existing similar complex bottom and placed in a manner that does not hinder navigation or impede commercial fishing and avoids impacts to existing complex habitats.
15. Minimize the use of scour or cable protection within complex habitats and/or use materials that match the existing habitat characteristics in areas where full avoidance is not feasible.
16. Unavoidable impacts to complex bottom, shellfish, and sand waves, sand ridges and shoals should be restored to the extent practicable.

Endangered Species Act

As noted above, BOEM is the lead action agency for the ESA section 7 consultation. BOEM submitted a Biological Assessment (BA) and request for consultation to NMFS on January 9, 2023, on behalf of the other action agencies, including the USACE. On February 8, 2023, we submitted a request for additional information that is necessary to initiate the consultation. We requested that BOEM provide this information by February 21, 2023, in order to maintain the March 1, 2023, ESA consultation initiation date. The USACE was copied on our information request. We encourage USACE to work with BOEM to ensure that the scope of the action and activities identified by USACE in the Public Notice are fully addressed in the BA and to otherwise address any errors or omissions in the BA as soon as possible.

The FAST-41 milestone date for initiating ESA consultation is currently set at March 1, 2023. Our consultation will consider the effects of all proposed federal actions on ESA listed species and critical habitat in the action area, including consideration of the effects of the activities authorized by the permit proposed for issuance by the USACE. Following initiation of consultation, we anticipate issuing a biological opinion that will determine whether the proposed actions are likely to jeopardize the continued existence of any listed species or destroy or adversely modify any designated critical habitat. This Opinion may include an Incidental Take Statement that may include Reasonable and Prudent Measures (RPMs) and implementing Terms and Conditions. It is our expectation that any of these RPMs or terms and conditions that apply to the USACE will be incorporated as conditions of any permit you issue for this project. We may also include Conservation Measures that should be considered by you as appropriate to further minimize effects of the proposed action on ESA-listed species and critical habitat.

Marine Mammal Protection Act (MMPA)

The MMPA prohibits the take of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if the taking will be of small numbers, have a negligible impact on the affected species or stock, and will not have an unmitigable adverse impacts on the availability of the species or stock(s) for taking for subsistence uses (where relevant). NMFS Office of Protected Resources has received a request from Sunrise Wind, LLC, for authorization to take small numbers of marine mammals incidental

to construction activities associated with the Sunrise Wind offshore wind energy facility. NMFS published a proposed rule in response to this request in the *Federal Register* on February 10, 2023 (88 FR 8996). If issued, the ITA will contain mitigation measures that may be relevant to conditions contained with the USACE permit. We encourage USACE to review the proposed rule to determine if any proposed mitigation measures conflict with those being considered by USACE. It is our expectation that USACE will condition any permit issued for this project to comply with all applicable laws, including the MMPA.

Conclusion

Thank you for the opportunity to comment on the public notice for this project. We look forward to continued coordination as a partner cooperating agency on this project as it moves forward in the NEPA process. We will update you on the status of the MSA, FWCA, and ESA consultations as information becomes available and if any additional information or issues of concern arise. If you have any questions or need additional information, please contact me at (978) 559-9871 or karen.greene@noaa.gov. Should you have any questions about the ongoing Section 7 consultation process for the Empire Wind project, please contact Julie Crocker at (978) 282-8480 or by email (julie.crocker@noaa.gov).

Sincerely,

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Feb. 3, 2023

Comments Re : Request for Information (RFI) Framework for Establishing a Regional Fisheries Compensation Fund Administrator for Potential Impacts to the Fishing Community from Offshore Wind Energy Development

Timeline : The timeline in which this initiative is being conducted is far too rushed. Although we appreciate the extra week allowed for the public to submit comments, a single 6-7 week comment period on something which has the potential to create decades worth of impacts for our vessels, businesses and industry as a whole is insufficient. The scoping document and accompanying comment period was announced on December 12, right before the holidays, overlapping with two Regional Fishery Management Council meetings, and overlapping with multiple DEIS releases by BOEM. It has not been a very inclusive or participatory process and appears to solicit public comment as a mere nod to stakeholders, as the RFI document itself delineates that- regardless of the input provided- the process for a Regional Administrator will be finalized in the winter of 2023 and implementation initiated in the spring of 2023. We are well into winter, so the process finalization either (1) is already decided and finalized, and/or (2) will be hastily finalized after public comments are received.

The document itself at this stage is vague in many respects, and if this is the only time that public input will be solicited prior to finalization and implementation then it is not a scoping document at all. Scoping implies the beginning of an interactive process whereby initial thoughts are collected, with the intent to inform the scope of a subsequent document or process which then becomes the object of public deliberation. This document is not that. This document is merely a one-time chance for the public to offer comments prior to the implementation of a rushed process which is yet undefined, lacks clear and definitive boundaries or elements, and due to its “voluntary” nature has not followed any of the regulatory or statutory safeguards designed to protect true public process in the United States.¹ As what is being contemplated is in reality impacting interstate commerce- as evidenced by the economic impacts activity that nine states are attempting to singlehandedly direct- it would appear that only Congress has the right to initiate such an action. The achievement of policy goals can be intertwined with interstate commerce initiatives, as would appear to be the case here. If the intent of the states is to truly compensate for the impacts to fisheries as the result of offshore wind development in federal waters, then a much more thoughtful, deliberative, and legally compliant process must ensue.

Establishing a Regional Fund Administrator for Fisheries Compensatory Mitigation Framework:

Legality: The RFI Administrator document and states’ initiative, while potentially paved with good intentions, is concerning for a number of reasons, not the least of which is lack of legislative or legal authority, framing, or constraint. The entire initiative rests on BOEM’s Draft Fisheries Mitigation

¹ For example, the Administrative Procedure Act.

Guidance Document (Draft Guidance). However, BOEM has stated repeatedly that it does not have the legislative/legal authority to require compensation of developers for offshore wind impacts to commercial fisheries, nor does it have the legislative/legal authority to create a fund designed to administer any such compensation. As we describe in detail in our comments on the Draft Guidance, there is a clear reason for this. Unlike its statutory obligations and charges regarding oil and gas impacts to commercial fisheries, BOEM's statutory obligations regarding offshore wind development require BOEM to prevent interference with reasonable uses of the ocean, i.e. avoid siting and approving offshore wind facilities on fishing grounds, which would negate the need for such compensation. However, the pertinent fact for this discussion is that BOEM has no regulatory authority to require compensation in the first place. It is upon this lack of authority that the entire RFI Administrator process hangs.

In a vacuum of regulatory authority, the states have jointly stepped in to "voluntarily" create a "solution" to supplement what the law does not allow BOEM to do. This is suspect on its face. An interstate body "engaging the public" to implement a "solution" to a federal process with federal impacts which federal law and regulation does not permit, all of which is "voluntary" and not pursuant to any kind of regulatory process itself in effect takes the RFI Administrator initiative out of any kind of certainty of process or legal context. This is concerning for all the reasons mentioned above, as well as the fact that should it become necessary for the fishing industry to pursue legal action to protect its interests, it cannot. As the RFI Administrator Initiative is morphing into being outside any legislative authority or regulation, there would be no legal or procedural violation to contest. Therefore, the fishing industry would be left without recourse should a hastily implemented and potentially biased process be "approved". Although the RFI documents solicit feedback on dispute resolution of claims, it is unclear and completely undefined what the states will finalize in this respect, as no prototype has even been provided or suggested. As this is the public's only opportunity to comment prior to implementation, and as the process has lacked transparency thus far, we have serious concerns that any such process would be adequate.

Draft Guidance: The fact that the RFI Administrator relies completely on BOEM's yet unfinalized Draft Guidance is problematic. Again, that document is "not meant to bind the public in any way".² That is problem number one. Although it went to public comment via the federal rulemaking portal, and although BOEM says it "can" require certain provisions pursuant to a COP approval, there is no guarantee or certainty of process that it can or will do so, or that a future Administration will not change course. BOEM is clear that the agency has no legal authority to require compensation or develop a compensation/mitigation fund or any kind. This is due to the fact, as we have argued, that the Draft Guidance is a run around of the law, rather than pursuant to it. We hereby include and incorporate all our comments on the Draft Guidance and apply them to the RFI Administrator questions as appropriate.³

Secondly, the Draft Guidance is still a draft. We have no Final Document yet from the agency. Attempting to create a framework for a regional Administrator around Draft Guidance document that is not finalized is putting the cart before the horse. The RFI is requesting feedback to many questions and aspects of a regional compensation fund that are dependent on the structure and "suggestions" of a Final Guidance document. While the states have argued that the RFI Administrator would simply be

² See <https://www.regulations.gov/document/BOEM-2022-0033-0003>, p. 1.

³ See our Draft Guidance comments, attached.

administering whatever funds that would be deposited in the fund pursuant to the Guidance, and as such the Guidance is irrelevant, this is not so.

For example, the claims structure will largely depend on dollar amounts entered into the fund, duration of compensation period per the Guidance (which will determine the amount entered into the fund), how shoreside impacts are calculated, whether or not decommissioning funds are included, eligible entities, etc. The fishing industry has commented substantially on many of these topics, but as of now do not know if BOEM has incorporated any of our comments/data/suggestions/objections into a Final Guidance document. As the addressing of those comments will inform our comments here, we cannot comprehensively offer feedback on many of the questions posed by the RFI document.

A question to the states would be can the states compensate where the Draft/Final Guidance is inadequate? Can the states address deficiencies in the Draft/Final Guidance? As the states are “voluntarily” taking on the initiative of creating an RFI Administrator, can the states also then augment the fund with additional funds to compensate and take responsibility for where the federal suggestions fall short? It is, in fact, the state offshore wind energy goals and mandates, as well as power purchase agreements with developers, that are driving the offshore wind push in federal waters, as evidenced by BOEM’s purpose and need statements in the DEISs of the various offshore wind projects both permitted and under review. We have highlighted this issue in our comments on the NY Master Plan 2.0 recently out for comment, which we incorporate here by reference.⁴

Intended Purpose of a Compensation Program: As we have stated above, and we reiterate for clarity, a commonsense interpretation of the Outer Continental Shelf Lands Act—both its requirement (the Secretary “*shall ensure*”, not “*should try to ensure*” or “*should balance competing objectives*”) to prevent interference with reasonable uses of the ocean when conducting offshore renewable energy activities, and its deafening silence regarding any authorization for BOEM to require compensation for damages caused by offshore wind development, serve to inform the states that BOEM is currently acting out of compliance with its legislative duties. If BOEM was complying with the very first NEPA requirement of “avoidance”, combined with the OCSLA requirement of “preventing interference”, there would be no need for compensation in the first place. That is by design, not omission. This becomes clear when contrasted with BOEM’s oil and gas legislative duties and authorizations. Since BOEM has refused to avoid siting offshore wind leases and infrastructure on fishing grounds and deconflict at the outset, it is now— in collaboration with the states— attempting to conjure up a workaround “compensation” effort to take the place of compliance with its governing legislation and regulations.

If the foundation is faulty, the entire building is faulty. That is the case here, and that is our position on this matter. However, purely for the sake of discussion, we will provide feedback on other elements of the RFI document.

SLOW: The role of the Special Initiative on Offshore Wind (SLOW) has not been properly articulated to the fishing industry in this process. SLOW was initiated as a special interest group designed to support offshore wind development. It is therefore troubling that, rather than retaining an independent third party to facilitate the RFI Administrator process, it is apparent that the states have retained SLOW in this role. It does not inspire confidence in the commercial fishing industry to be asked to submit comments to an email address “@offshorewindpower.org”. Is SLOW receiving state funds to lead this initiative? Why couldn’t such funds have been used to engage an objective third party? We are

⁴ See comment letter, attached.

certain that had the states solely engaged a fishing industry group to facilitate the initiative, offshore wind developers would not have agreed to such an arrangement. Neither do we.

Having a special interest group created to support offshore wind lead a "compensation" plan for a competing industry does not give us confidence that we are engaging in a truly public and objective process that is in our best interests. It is clear that SLOW is doing more than playing a support role here, which is what we were led to believe by the states previously. SLOW is directed by a Steering Committee comprised of such members as offshore wind developer Orsted and the NY Offshore Wind Alliance.⁵ This leaves us with great cause for concern that the RFI Administrator initiative will be dedicated to advancing little more than window dressing when it comes to commercial fisheries impacts from offshore wind and leaves us with questions about how the initiative is taking shape out of the public eye. This is especially true given our comments on the timeline, above, where it is apparent that the RFI process finalization is scheduled for so quickly after the singular "scoping" process is finished.

Request for access to all submitted comments: As the RFI Administrator initiative is being conducted in much closer coordination with developers and developer-connected entities than with the commercial fishing industry, we have serious concerns with the process as a whole. Therefore, in the interest of at least some form of transparency, we request that all public comments, including that of states and developers, be posted and publicly available in full and unredacted form following the comment period deadline.

Regional Geographic Scope and a Unified Regional Fund: While we agree that all impacts evaluations and related actions should and must take place at a regional level due to the very real cumulative effects on commercial fisheries from offshore wind development, which is taking place on a coastwide scale affecting coastwide fisheries, this is another issue circling back to the Draft Guidance document and BOEM process. Yes, there should be a regional geographic scope for assessing and addressing fisheries impacts from offshore wind development. However, BOEM is not truly assessing fisheries impacts in a cumulative coastwide manner. There is a disconnect between the BOEM process and the RFI Administrator proposed process.

BOEM currently only values fisheries impacts on a project by project basis. It does not value these impacts cumulatively. Additive, which is what would fund the Administrator fund, is not the same as cumulative. BOEM does not attempt to quantitatively cumulative impacts- it merely states that cumulative impacts are "major". What constitutes "major" from a value intended to fund the RFI Administrator? Cumulative impacts are just that- cumulative- and must be assessed as such. A regional approach requires true, detailed, cumulative impacts assessments and valuations, which are not being conducted by BOEM at this time. Can the states publicly request that BOEM amend its process to do so?

BOEM does not even value fishery by fishery impacts even at the individual project level, never mind the cumulative level. This is important. For example, BOEM values single project impacts to the Mackerel/Squid/Butterfish Fishery Management Plan (FMP) when conducting a COP review (we do not agree with whatever method is used, as it differs greatly from other methods that show much more realistic impacts, for example, the RI DEM VMS analysis valuations, which better represent true levels of impact). However, the Mackerel/Squid/Butterfish FMP comprises a permit suite of five different species and associated fisheries. When discussing eligibility criteria, this becomes problematic. Additionally, it masks true impacts to various fisheries, and downplays those impacts. For example, the longfin squid

⁵ See <https://offshorewindpower.org/people>.

summer fishery is severely impacted by several projects, as well as cable corridors from many projects. Both individually and cumulatively, those projects have the potential to completely eliminate the summer longfin squid fishery and bankrupt vessels reliant on that fishery. Even if those vessels are able to engage in other fisheries at other times of year in other areas, the cumulative impacts to that seasonal individual fishery may make these vessels insolvent. If that impact is not analyzed, but is instead masked by a project by project FMP level valuation, the fund will not accomplish its purpose of compensation of fisheries impacts.

Anticipated Losses and Costs: We agree with the list of impact factors of potential lost revenue and potential increased costs listed in Table 1 on pages 12-13 of the Scoping Document. These are very real expected losses for the commercial fishing industry. However, again, there exists a complete disconnect between this list and what impacts BOEM actually evaluates. The fund is being set up to fail. It will claim to account for all of the very real costs to industry listed in Table 1, but the fund will not receive any compensation money for those factors. Therefore, it cannot compensate for what it is purporting to compensate.

In fact, BOEM does not evaluate or require compensation for *any* of these listed factors. It does not evaluate or require compensation for surveys of the lease area, despite the fact that these are ongoing- it does not even require permits for such surveys, much less compensation. It does not evaluate compensation for decommissioning; it doesn't even require the developers to present a decommissioning plan as part of COP approval. It does not evaluate reduced catch; it does not evaluate devaluation of businesses and permits; etc.

The only factor that it purports to partially "compensate" for is displacement from fishing area, while continuing to state that vessels will still be able to safely operate in the area, contrary to experience elsewhere. BOEM may acknowledge impacts but does not value them or require compensation for them, since, after all, BOEM cannot require compensation and all compensation is "voluntary". For example, BOEM acknowledges increased transit costs are an impact of offshore wind development,⁶ which will be significant and increase travel time and fuel costs. But it does not even attempt to quantify these impacts, despite the fact that the millions of acres already leased and more preparing for lease will result in significant cumulative impacts on transit. If the RFI Administrator fund is to be functional, it must first find a way to align the list of impacts in Table 1 of the Scoping Document with money that would be feeding the fund.

Another example is permit devaluation. Permits are currency in commercial fisheries. Depending on what species and qualifications those permits possess, the permit itself can be valued at tens of thousands to hundreds of thousands to over a million dollars. Not all permits are active at the same time; as some inactive permits may be held in CPH (Confirmation Permit History). For example, in the longfin squid fishery approximately 383 permits exist, with approximately 224 Tier 1 permits active

⁶ See for example, the Revolution Wind DEIS, "or increase in fishing costs (e.g., transiting time), the profitability of businesses engaged in commercial fisheries and for-hire recreational fishing would be adversely affected", at <https://www.boem.gov/renewable-energy/state-activities/revolution-wind-deis>, p. 3.9-38. Also see, for example, Vineyard Wind FEIS "Larger vessels may find it necessary to travel around the WDA to avoid maneuvering among the WTGs.... Fishing vessels not able to travel through the WDA or deploy fishing gear in the WDA would need to travel longer distances to get around the WDA or find alternative fishing locations. This can result in increased travel time and trip costs" at <https://www.boem.gov/vineyard-wind>, p. 3-214.

and 24 Tier 1 permits in CPH.⁷ Currently, BOEM's only quantitative analysis is based off of ex-vessel value. It does not value permits, nor vessels with those permits. Therefore, the fund cannot compensate for permit devaluation. Furthermore, if permits eligible for funds were somehow connected to the ex-vessel value revenue, such analysis would not account for the substantial value of inactive permits held in CPH.

To truly assess the real values of the Scoping document Table 1 list, the RFI Administrator would need to consult accountants familiar with the commercial fishing industry, vessel and permit brokers, marine insurance brokers, etc.⁸ So far, and with no disrespect intended, the RFI Administrator process has involved primary state bureaucratic employees and a special interest offshore wind group, neither of which have expertise when it comes to financial expertise of a commercial enterprise such as the fishing industry. More time is needed to flesh this out and how much sources would feed into the Administrator process. It cannot be sufficiently addressed by a one time "scoping" exercise.

We request two things to be added to the list of impacts in Table 1 of the Scoping document. The first is bankruptcy. The fact is that the cumulative impacts which BOEM is not evaluating is going to result in bankruptcy for some vessels/businesses if the current course of action does not change. Indeed, individual projects may spell bankruptcy for some. There is a tipping point by which a vessel or a business will no longer be able to continue operation- and this is well before the "100% of the fishery ex-vessel revenue" mark is reached. Once profit margins have disappeared, which is a number far below that 100%, nobody can afford to work for free and/or go backwards. The RFI Administrator Fund must therefore be prepared to deal with full industry buyout. As we will discuss below, assumption based on hope that fisheries will be able to "transition" are not based on fact or experience. Hope in unfounded assumptions is not a strategy.

The second is resource impacts. We know that peer reviewed science has shown that offshore wind wake effects cause changes in oceanic conditions,⁹ and now know that these wind wakes and associated disruption to ocean hydrodynamics caused by offshore wind farms can cause up to a 10% decrease in primary production.¹⁰ This fact has led to NOAA's Chief of Protected Species alerting BOEM that the turbines' oceanographic impacts to the North Atlantic Right Whale's forage base could cause population level effects to the species for the 30 year life of the projects, effects that cannot be mitigated other than creating no-build zones and/or through decommissioning.¹¹ If the effects can be

⁷ Through 2018; see Squid Amendment 20 at https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5c113b1f70a6ad290cf75cfd/1544633161550/20181018_Squid-Amendment-Final+EA.pdf, p. 143, and Final Rule at <https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5c18195db8a045d8d656e3b0/1545083230238/Squid-MSB-Am-20.pdf>.

⁸ See for example, <https://athearnmarine.com/>.

⁹ See Christiansen N, Daewel U, Djath B and Schrum C (2022) Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes. *Front. Mar. Sci.* 9:818501. doi: 10.3389/fmars.2022.818501, and Dorrell RM, Lloyd CJ, Lincoln BJ, Rippeth TP, Taylor JR, Caulfield CCP, Sharples J, Polton JA, Scannell BD, Greaves DM, Hall RA and Simpson JH (2022) Anthropogenic Mixing in Seasonally Stratified Shelf Seas by Offshore Wind Farm Infrastructure. *Front. Mar. Sci.* 9:830927. doi: 10.3389/fmars.2022.830927.

¹⁰ See Daewel, et al. Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea COMMUNICATIONS EARTH & ENVIRONMENT | (2022) 3:292 | <https://doi.org/10.1038/s43247-022-00625-0> | www.nature.com/commsenv.

¹¹ See NOAA to BOEM, May 13, 2022.

felt by a whale, they will also be felt by other species reliant on offshore wind lease areas. We also know that the cumulative decade(s) of pile driving in certain lease areas will have long term impacts on the feeding behavior of commercial species such as longfin squid,¹² that cephalopods experience acoustic trauma as a result of both pile driving and low frequency noise,¹³ that daily exposure to low frequency noise such as that associated with wind farm construction and operation can cause species such as cod to experience reduced spawning success thus affecting population levels,¹⁴ and that magnetic fields emanating from the subsea cables of offshore wind farms can affect the swimming capability of commercially important fish species' larvae thereby affecting their survival rate.¹⁵ This is not speculation. Therefore, BOEM and the states should be prepared to compensate for negative resource population-level impacts.

Additionally, BOEM has not made public its exact formula for valuating commercial fisheries ex-vessel value impacts. The math problem and data sources and data analysis that it uses to generate a valuation of impacts matters and should be made public and available to the RFI Administrator as well as anyone else attempting to value fisheries impacts. It is understood that the RFI Administrator is intended to merely administer the funds identified by the BOEM process. But the allocation of impacts to FMP or fishery may become necessary information for an Administrator to determine eligibility. Valuation methods should be made clear, public, and repeatable.

Governance and Advisory Structure: Any Board or Advisory structure must include representation from every commercial fishery affected by offshore wind, as each fishery will experience unique and gear specific impacts.

Regional Fund Administrator Purpose Questions:

This section continues to discuss helping the fishing industry/specific gear types “transition” and “adapt”. This is also a major flaw of the BOEM Draft Guidance. Not all fisheries and gear types will be able to adapt. Period. The states need to recognize and come to terms with this fact, as does BOEM. In the UK, where wind farms have been present for decades now, mobile bottom tending gears have not

¹² See Jones et al, Changes in feeding behavior of longfin squid (*Doryteuthis pealeii*) during laboratory exposure to pile driving noise. Marine Environmental Research 165 (2021) 105250
<https://doi.org/10.1016/j.marenvres.2020.105250>.

¹³ See Solé, M., De Vreese, S., Fortuno, José.-Manuel., van der Schaar, M., Sánchez, A.M., André, M., Commercial cuttlefish exposed to noise from offshore windmill construction show short-range acoustic trauma, *Environmental Pollution* (2022), doi: <https://doi.org/10.1016/j.envpol.2022.119853>

and
Sole et al, Offshore exposure experiments on cuttlefish indicate received sound pressure and particle motion levels associated with acoustic trauma , *Nature.com Scientific Reports* (2017) DOI: 10.1038/srep45899
and

Andre et al, Low frequency sounds induce acoustic trauma in cephalopods , *Frontiers in Ecology* (2011) doi:10.1890/100124.

¹⁴ Sierra Flores et al, Stress response to anthropogenic noise in Atlantic cod *Gadus morhua* L. (2016) *Aquacultural Engineering* <http://dx.doi.org/10.1016/j.aquaeng.2015.06.003>.

¹⁵ See <https://thefishingdaily.com/featured-news/research-finds-submarine-cables-impact-survivability-of-haddock-larvae/>.

been able to adapt and are actually warned to stay away from underwater infrastructure. We reiterate our comments to BOEM's Vineyard Wind SEIS on this issue below:

"In the U.K., the only European country which allows commercial fishing inside of wind farms, mobile gear fishing does not occur where cables are present.¹⁶ This is due to potentially fatal interactions with the cables themselves. The below notice to U.K. fishermen from offshore wind developer DONG Energy (now Orsted) and the Kingfisher Information Service, a fisheries information service providing fishermen the location of subsurface and subsea hazards around the U.K.,¹⁷ reads, 'The closer to the surface a subsea cable is lifted when fouled by fishing gear, the more damage there is to the fishing vessel. In the interests of fishing safety and to prevent damage to subsea structures fishermen are advised to exercise caution when fishing in the vicinity of subsea cables and renewable energy structures. ***Loss of gear, fishing time, and catch can result if a trawler snags a subsea structure and there is serious risk of loss of life.***' (emphasis ours)

See image on next page:

¹⁶ Gray et al., "Changes to fishing practices around the UK as a result of the development offshore wind farms- Phase 1 (Revised)", The Crown Estate, 2016, p. 29.

¹⁷ See <https://www.seafish.org/article/kingfisher-information-services>.



Westermost Rough Offshore Wind Farm



The Kingfisher
Information Service



Description

The Westermost Rough Offshore Wind Farm is situated 8km off the Yorkshire Coast, north of Hull and contains 35 turbines of 6MW capacity- the first time anywhere in the world that these turbines have been used on a large scale.

Covering a total area of 35km², Westermost Rough should provide enough electricity to power around 150,000 UK homes.

Reducing the Risks whilst Fishing

To reduce the risks of fishing near offshore structures, it is essential to be up to date with KIS-ORCA information. KIS-ORCA information is vital to install on your vessel's fishing plotter and ensures skippers are able to make informed decisions for their safety.

The closer to the surface a subsea cable is lifted when fouled by fishing gear, the more danger there is to the fishing vessel. In the interests of fishing safety and to prevent damage to subsea structures, fishermen are advised to exercise caution when fishing in the vicinity of subsea cables and renewable energy structures. Loss of gear, fishing time and catch can result if a trawler snags a subsea structure and there is serious risk of loss of life.

Emergency Procedures

1. If you suspect you have snagged a subsea cable, **DO NOT** endanger your vessel and crew by attempting to recover your gear.
2. Carefully plot your vessel's position as accurately as possible.
3. Advise the Coastguard of your situation and call the 24 hour Emergency Number and state that an incident is occurring concerning a subsea cable.

Advisory Safety Zones

An Advisory Safety Zone of 50m around each turbine and substation structure is requested. An 200m anchorage exclusion zone around the export cable is requested. All vessels are asked to respect the Advisory Safety Zones, which as well as reducing the risk of collision damage, will provide protection to vessels, the export cable, and wind turbine structures.

If any major maintenance works are planned, Notices to Mariners will be promulgated in advance as required. During such works a Mandatory Safety Zone of 500m is likely to apply to certain turbines and/or vessels.

Contact Details

EMERGENCY CONTACT NUMBER:
08455 44 1037

Always ensure you have the latest Kingfisher Information onboard your vessel

Edition: January 2016

Another notice to U.K. fishermen, below, as part of the KIS-ORCA (Kingfisher Information Service-Offshore Renewable & Cable Awareness project) states, 'Renewable Energy Structures and Subsea Cables are a hazard and fishing over them should be avoided at all times....Most modern subsea cables carry high voltages which could prove lethal if attempts are made to cut them.'

Dangers of Renewable Energy Structures & Cables to Fishing

Renewable Energy Structures and Subsea Cables are a hazard and fishing over them should be avoided at all times. Heavily armoured cables used within the subsea cable and renewable energy industry are very strong and have high breaking strains, sometimes over 70 tonnes and can do extensive damage before they give way. Most modern subsea cables carry high voltages which could prove lethal if attempts are made to cut them.

Fibre Optic cable consists of an inner optical core encased within a copper clad high tensile steel wire rope insulated with polythene. In water less than 1500 meters deep, protection is added against fishing and anchor damage in the form of external steel wire armour. Due to the severe environmental demands placed on submarine cables, a lead-alloy sheath is often specified because of its compressibility, flexibility and resistance to moisture and corrosion. The sheath is usually covered by a number of outer layers, comprising a PE or PVC jacket and metal wire armouring.

The KIS-ORCA Project

The Kingfisher Information Service - Offshore Renewable & Cable Awareness project (KIS-ORCA) is a joint initiative between Subsea Cables UK and RenewableUK and is being managed by the Kingfisher Information Service of Seafish.


Offshore wind farms, renewable energy structures and subsea cables are increasing in number around the shores of the UK. The potential risks these structures may cause to fishermen is significant and the KIS-ORCA project aims to ensure these are managed in a responsible way.

It is against the law to wilfully damage a subsea cable. To enable fishermen to continue to work safely in the vicinity of subsea cables and renewable energy structures, KIS-ORCA provides fishermen with information and accurate positions of all these offshore structures.

KIS-ORCA information is made available as fishing plotter files and awareness charts for use on vessels and on www.kis-orca.eu, where information may be viewed and downloaded.


Wind Turbines and Foundations

As wind turbines get larger and are deployed in deeper waters, a range of different foundation types may be encountered such as monopile, jacket, gravity base and suction bucket. In some cases multiple foundation types may be used within a single turbine. In all cases it is likely that scour holes will form around the foundation base, the depth and extent being dependent upon a range of factors including seabed type and current strength and direction. Scour protection in the form of rock dumping or cable mattresses is often used around the base of the foundations which may present a snagging risk. During the operational phase of a wind farm, an operator may request a 50m advisory safety zone around each structure.



Inter Array Wind Farm Cabling

The inter array cables interconnect the turbines typically in radial strings going to the offshore substation platform. The issues associated with these are largely the same as per cable burial. Each turbine will usually have up to two cables entering the foundation structure at the seabed through a protective tube. Typically the tube has a bellmouth at the seabed to aid alignment and pulling in of the cables. Whilst the cables may have been jettied in or ploughed as close as practical to the foundation, cables may not be fully buried and may also become exposed by scour holes forming. In these circumstances scour protection in the form of rock dumping or cable mattresses may be used. Cables, albeit close to the foundation, may present a snagging risk to anchors and/or trawled gear.



Reducing the Risks whilst Fishing

To reduce the risks of fishing near offshore structures, it is essential to be up to date with KIS-ORCA information. KIS-ORCA information is easy to install on your vessel's fishing plotter and ensures skippers are able to make informed decisions for their safety.

The closer to the surface a subsea cable is lifted when fouled by fishing gear, the more danger there is to the fishing vessel. In the interests of fishing safety and to prevent damage to subsea structures, fishermen are advised to exercise caution when fishing in the vicinity of subsea cables and renewable energy structures. Loss of gear, fishing time and catch can result if a trawler snags a subsea structure and there is serious risk of loss of life.

If it is thought prudent to slip, or cut your fishing gear in an attempt to clear a subsea structure, always lower the gear to the seabed first. Never attempt to slip anything bearing excessive weight.

Claims for loss of gear should be made to the appropriate authority within 24 hours of arrival in port. Full particulars of the incident should be given and full details recorded in the vessel's official log, date and exact time, the vessel's position (VMS if suitable), depth of water and a description of the cable if sighted.

Claims for loss will only be considered if current KIS-ORCA data is installed on your vessel's fishing plotter.

HM Coastguard

Humber MRCC, Tel: +44 (0)1262 672317 Forth MRCC, Tel: +44 (0)1333 450666

Another notice, below, reads 'Due to the nature of some areas of seabed where mobile sediments are found, cables that were buried at the time of installation may become exposed over time, therefore it should not be assumed that all submarine cables are completely protected by burial, as they may become exposed and on the surface.'


3:03


LTE

AA

Not Secure — kis-orca.eu




**KIS-ORCA** | Offshore Renewable & Cables Awareness

Keyword search: 

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Subsea Cables

This section contains information relating to Subsea Telecoms and Power Cables, from design to installation, maintenance to future trends.

Subsea cables have a very long history, with the world's first submarine cable crossing the Dover Strait in 1850. Subsea cables are essential to the worlds communications and with the growth of offshore renewable energy developments, the supply of electricity.

For a summary of the importance of power and telecoms cables and the issues effecting them, please download the Subsea Cables UK documents below:

“ The Importance of Subsea Telecoms Cables

“ The Importance of Subsea Power Cables

At the planning and installation phase of a submarine cable project, one of the most effective methods of protecting a submarine cable from damage caused by external aggression is to bury the cable, usually with a sea plough.

Due to the nature of some areas of seabed where mobile sediments are found, cables that were buried at the time of installation may become exposed over time, therefore it should not be assumed that all submarine cables are completely protected by burial, as they may become exposed and on the surface.

Please click on the sections to the right of this page to [view](#) detailed information.

IN THIS SECTION:

[Design](#)

[Installation Procedures and Methods](#)

[Cable Burial](#)


[Maintenance / Repair Operations](#)


[Submarine Cable Maintenance](#)

[The Future of Subsea Cables](#)

[Media Gallery](#)

Register for Kingfisher Bulletins


Register here, to receive the Kingfisher Bulletin by email:



For example, one Kingfisher Bulletin “Offshore News” 16 November 2017, attached as a part of our comment, includes “Notice to Fishermen” sections where new “Fishing Hazards” areas are highlighted to alert fishermen to newly exposed cables. Such notices include warnings such as “Cable Spans Along Greater Gabbard WF Export Cable; Recent results from the export cable surveys at Greater Gabbard show that there are 8 free-spans which are listed below. Whilst the results continue to be processed, Balfour Beatty have asked that in the interest of safety and the integrity of the cable, extreme caution be used when Fishing near the export cables and that Fishermen refrain from using towed gear across the export cables whenever possible.”¹⁸

Another ‘Notice to Fishermen’ from the same Kingfisher Bulletin states ‘Fishing Hazard- Gunfleet Sands WF Export Cable (Exposure Update); Recent surveys at the Gunfleet Sands offshore wind farm have illustrated that some array/in field cables are lying exposed on the seabed and are no longer buried and there is one freespan.’¹⁹

Yet another states, ‘Inter Array Cables- exposed sections; There are some sections of the installed inter array cables that are currently either shallow buried or exposed on the seabed. The shallow buried/exposed sections of cable could represent a significant hazard to fishing vessels and their gear (if fishing gear is deployed over them) and any vessels anchoring over them. Cable hazards will remain until completion of cable protection works planned for Q4 2017 and Q1 2018.’²⁰ This particular notice to fishermen was first published on December 3, 2015.²¹ This means that the exposed cables and associated fishing hazards would be in place for 3 years before remedy was taken. This is similar to the timing of repair of the currently exposed Block Island Wind Farm cables. As such, the area would represent a life-threatening hazard to fishermen for consecutive years in a row.

Considering all of the above, the SEIS assumption that cables will only result in temporary fishing displacement while installation occurs is erroneous. During the entire life of the Proposed Action and all other cumulative actions, inter-array and export cables will present a default exclusion zone for mobile bottom tending gear vessels, such as longfin squid trawl vessels. Unless the vessel is willing to risk “loss of life.” We believe this is a major impact. The SEIS and all BOEM analysis must therefore consider all inter array areas within the wind farm as well as export cable routes a complete loss of trawl fishing activity and revenue.”²²

Due to the highly regulated nature of commercial fishing in the US, which is much more spatially regulated than any BOEM activity, we cannot simply “relocate” bottom trawl activity to areas outside the wind leases.²³ In reality, wind leases may soon cover the majority of the fishable area on the US East Coast OCS. Additionally, we know as discussed above that the offshore wind farms will have significant environmental and fisheries resource impacts. The combination of these factors cannot be ignored.

¹⁸ Kingfisher Bulletin “Offshore News” 16 November 2017, Issue 23, p. 9.

¹⁹ Ibid.

²⁰ Ibid, p. 10.

²¹ Ibid.

²² Taken from Seafreeze Vineyard Wind SEIS comments, July 2020, available at: <https://www.regulations.gov/comment/BOEM-2020-0005-13102>.

²³ See the information contained in our NYSEDA Master Plan 2.0 comments, attached.

In fact, in June 2022, a paper entitled “Spatial Squeeze in Fisheries” was published in the UK,²⁴ found that due to the combination of growing offshore wind and related Net Zero targets combined with spatial fisheries regulations, both of which are already displacing mobile bottom trawling, that mobile bottom trawls would between 2030 and 2050 be essentially eliminated. In the UK, as on the East Coast of the US, mobile bottom tending gear accounts for most of the tonnage of seafood harvested. If UK fisheries have not “transitioned” but instead are preparing for potentially complete annihilation, the states should be prepared for the same results here. Assuming otherwise, with assumptions based neither in fact nor experience, is foolish and insupportable. Therefore, we request that the states remove that assumption from the RFI Administrator documents.

As the RFI Scoping document suggests, a separate gear loss claims process should also be regionalized.

Funding Questions:

Mismatch of Anticipated Impacts and Anticipated Funds: This section is perhaps the most problematic. As stated numerous times above, if BOEM’s Draft Guidance remains the same when the document is finalized, the RFI Administrator fund will be astronomically short of the funds necessary to compensate for the impacts that the states have identified. In this respect we know two things: (1) the impacts listed in Table 1 of the Scoping Document are not evaluated quantitatively by BOEM, neither are cumulative impacts or various other impacts identified in this process, and (2) the Draft Guidance incorporates *recreational* fisheries’ compensation also. There are tens of thousands if not hundreds of thousands of recreational fishermen up and down the East Coast. BOEM does not quantitatively value recreational fisheries impacts from offshore wind development. If the “compensation” funds are based purely on ex-vessel value of commercial fisheries and then are intended to be used for recreational fisheries compensation as well, the fund will dry up and fail almost immediately.

Even aside from the question of recreational fisheries, the fact that the anticipated compensation measures of the fund do not match BOEM’s impact analysis valuations will make the fund essentially a failure from the start. The fund would be starting out with a huge shortfall, leading to either a quick run on the bank which would deplete the fund in short order, or a limit the dollar amount of individual payouts to where the individual impacts are not compensated by the amount of the payout. Either way, the fund at this point is set up to fail. Assurances that “this is a living document and better arrangements can be developed along the way” is not realistic nor adequate. A promise is not a guarantee. Hope is not a strategy. Action is needed at this stage to ensure success.

Number of Expected Applicants: Before setting up any fund, the first question to answer is, “What is the expected number of applicants?” The structure of the fund will largely depend on the answer to that question and is the only way the fund can be set up to reflect demand. To prepare to answer that question, the states will need to contact NMFS to obtain a list of the number of permits per federal commercial fishery (and any associated permit categories, as permit category would be necessary for determining eligibility, value, and level of impact/compensation), as well as each state fisheries department for number of state only commercial permit holders per fishery, and each state fisheries department for the number of recreational permit/license holders should an individual state require them. The states should also reach out to NMFS and their respective state fisheries departments

²⁴ ABPmer, (2022). Spatial Squeeze in Fisheries, Final Report, ABPmer Report No. R.3900. A report produced by ABPmer for NFFO & SFF, June 2022.

for a list/number of federal and state dealer permits, which will help to inform the number of shoreside businesses affected. State landing licenses will also provide a useful metric for determining any fishery entities that wouldn't be covered by the above, as well as commercial fishing businesses directories that would include shoreside businesses such as those that manufacture commercial bottom trawl nets/wires/gear. Knowing how many applicants to prepare for will largely direct the rest of the conversation on structure and funding issues, as well as payout structure.

Shoreside Business Impacts: Shoreside business impacts are also a major problem in the BOEM Draft Guidance. BOEM's "assumption" that the economic multiplier for a shoreside business is ludicrous. Yet this is the assumption made in the Draft Guidance, and should it continue to the Final Guidance will be the number that informs payouts to shoreside businesses. Please see our Draft Guidance comments on this issue attached.

No industry operates on 1-2% of its raw material costs. Under this assumption, if Seafreeze were to pay an individual vessel unloading at our facility \$1 per pound for squid, we would be expected to cover all property costs, insurance, machinery maintenance and/or replacement, electric and water costs, freezing costs, packaging costs, ice making, shipping costs, refrigeration and cold storage costs, temporary labor costs, salaries, taxes, financial service costs, inspection fees, compliance costs, and a host of other financial operating costs- without even so much as considering profit- on \$0.01 per pound. This is not only grossly inaccurate, but also grossly negligent to make such an assumption.

We participated in a research product conducted by the Science Center for Marine Fisheries, an industry/academic partnership under the umbrella of National Science Foundation entitled "Economic Impacts Associated with the Commercial Fishery for Longfin Squid (*Doryteuthis pealeii*) in the Northeast U.S."²⁵ This study was completed in association with the Virginia Institute of Marine Science and calculated a total economic output multiplier for longfin squid of 7.64, i.e. every dollar of squid fishery landings leads to \$7.64 in total economic output. Not \$0.01-\$0.02. This means that should the current form of the Draft Guidance determine the dollar value entering the RFI Administrator fund, the fund would be over 700 times short the amount of funding necessary to account for shoreside impacts arising from the squid fishery. How then can shoreside impacts be compensated? They cannot.

BOEM's assumption that shoreside businesses can simply "import" to cover the losses is ridiculous. Our facilities are designed to offload vessels. For example, our Seafreeze Shoreside facility is comprised of docks, unloading pumps and conveyors- all designed to unload commercial fishing vessels- freezers and packing facilities that package/freeze the unloaded product, and an ice plant that supplies the vessels with ice. We cannot import; that is not our business model. We are dependent on boats and what they unload at our facility. Those vessels supply 100% of our product flow. A secondary/tertiary wholesaler dealing with fully processed/ready to eat product may be able to import. But we are not that. And we are not alone.

The states should suspend the process until the Final Guidance is available, determine what BOEM's final valuations are, and begin the process there. Should the Guidance remain the same, the states will either have to make up any shortfalls themselves, or reject the Guidance document, if the states truly intend to compensate for the impacts that are listed in the RFI Administrator Scoping document. Otherwise, the fund itself is relatively meaningless for many impacted entities.

²⁵ See Scheld, "Economic Impacts Associated with the Commercial Fishery for Longfin Squid (*Doryteuthis pealeii*) in the Northeast U.S.", 2020, at https://scemfis.org/wp-content/uploads/2020/03/LFS_EI_Report.pdf.

Duration of compensation: The Draft Guidance also assumes a 5-year duration of payouts. This is inconsistent with the ecological impacts of the project discussed previously in this comment. Those will last for the life of the projects. The loss of fishable area for the mobile bottom tending gear fleet will also be permanent for the life of the projects, as discussed above. Therefore, the impacts to shoreside businesses reliant on the mobile bottom tending gear fleets will also last for the life of the projects.

Again, most likely what will happen should the states move forward in the current state of affairs is that the fund will be depleted almost immediately or the payouts will have to be divided between so many applicants that the amounts distributed will be miniscule and woefully insufficient. This is a huge concern to those who have everything to lose and nothing to gain from offshore wind development. It is highly unlikely that once a structure is established that BOEM nor the states will go to any great length to modify it in the future. Therefore, we request that the states take a pause to analyze, discuss, and address these issues before moving any further forward with the RFI Administrator process.

While we would like to provide additional input, time and resource constraints are prohibitive to doing so. We sincerely hope that the states will slow the process down to allow for more opportunities for input, constructively work towards comprehensive solutions to the issues we have addressed and avoid pitfalls at the outset rather than after they become greater issues of contention with greater consequences. However, we continue to contend that if BOEM were to comply with its authorizing legislation, as well as NEPA requirements of first “avoidance”, such a fund would be unnecessary in the first place.

Sincerely,
Meghan Lapp
Fisheries Liaison, Seafreeze Shoreside and Seafreeze Ltd.

CC: Morgan Brunbauer, NYSERDA
Brian Hooker, BOEM
Karen Baker, BOEM



November 18, 2022

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North Kingstown, R.I. 02852 U.S.A.
Tel: (401)295-2585

Morgan Brunbauer
Offshore Wind Marine Fisheries Manager
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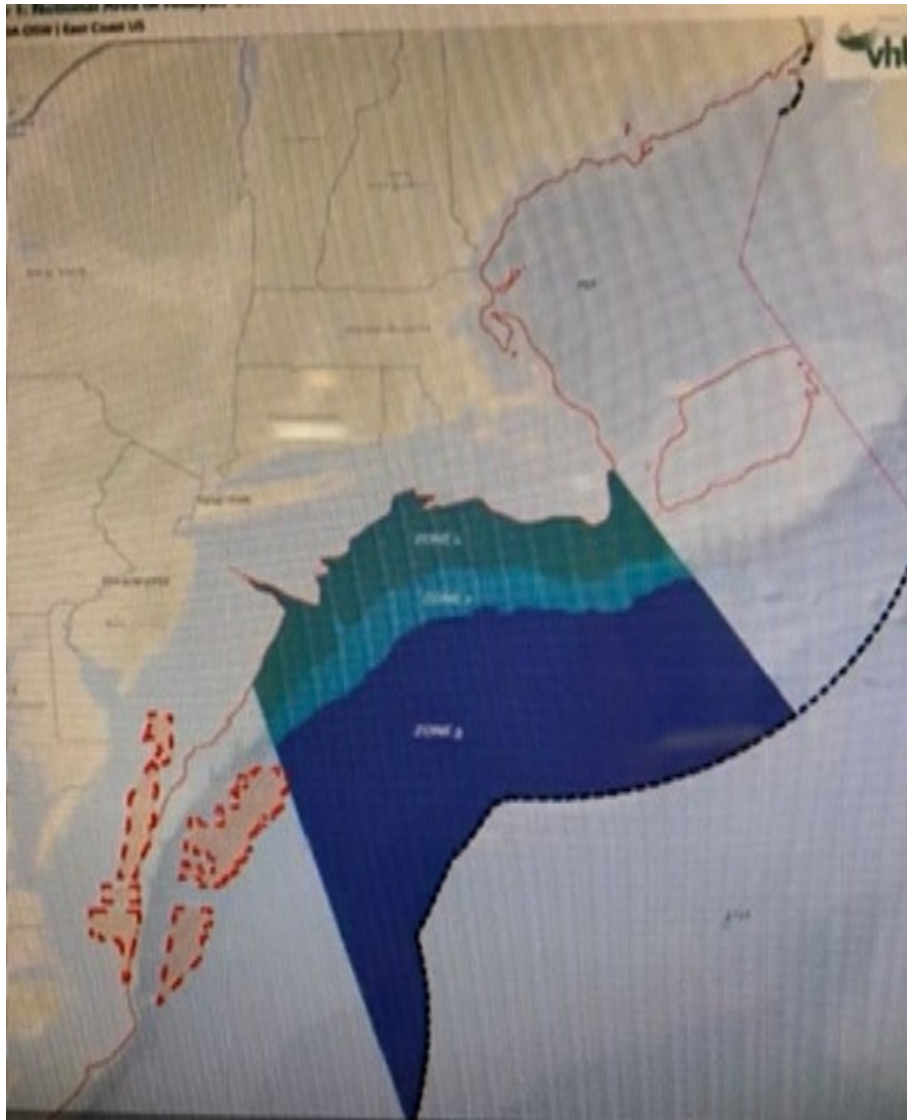
RE: NYSERDA Approach for Master Plan 2.0: Deepwater

Dear Morgan,

I want to express our serious concerns with NYSERDA's Master Plan 2.0. What NYSERRDA is proposing is essentially to take over the remainder of the OCS in Southern New England and the northern Mid Atlantic that is not already currently leased for offshore wind. As our commercial fishing vessels and affiliated shoreside businesses rely on continued operational access by our vessels and customer vessels to these important fishing grounds, and as these vessels will be unable to operate their mobile bottom tending gear in offshore wind facilities, including those already leased/permitted should construction ensue, we cannot support in any way NYSERDA's Master Plan.

As NYSERDA is a leader in the ongoing state- led RFI process for developing a regional compensation fund for commercial fishing impacts resulting from offshore wind development, we request that this letter and its contents be included in that process and distributed among the state working group members.

The cumulative impacts arising from existing leases, existing planning areas, and existing fisheries regulated areas, combined with NYSERDA's Master Plan 2.0 essentially would mean the end of federal commercial fishing in our region. The below image of Phases 1, 2 and 3 of the Master Plan 2.0 ranges from southwest Georges Bank to approximately Lindenkohl Canyon, with associated continental shelf in between. It is a shockingly huge area overlapping with all major fisheries in the region.

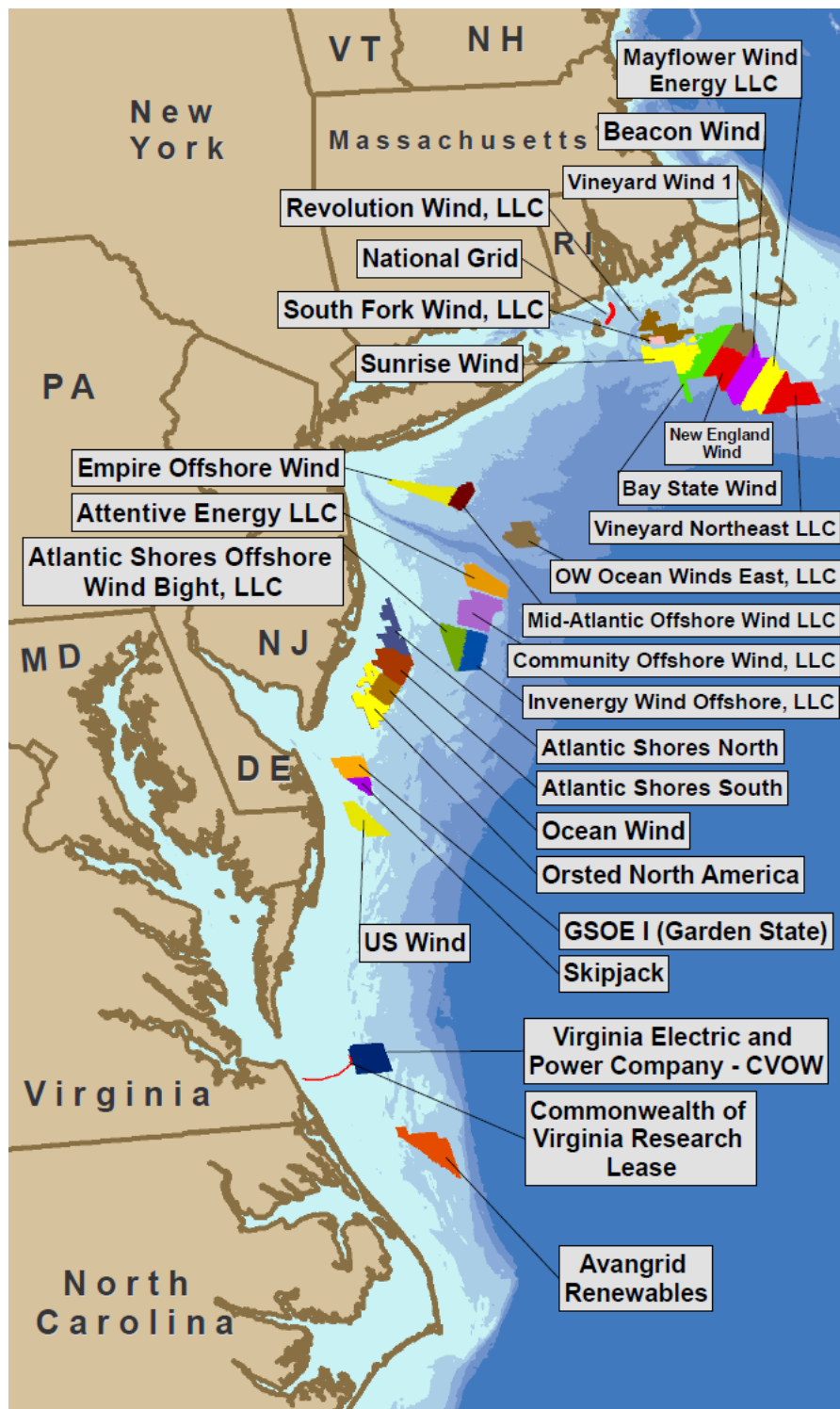


1

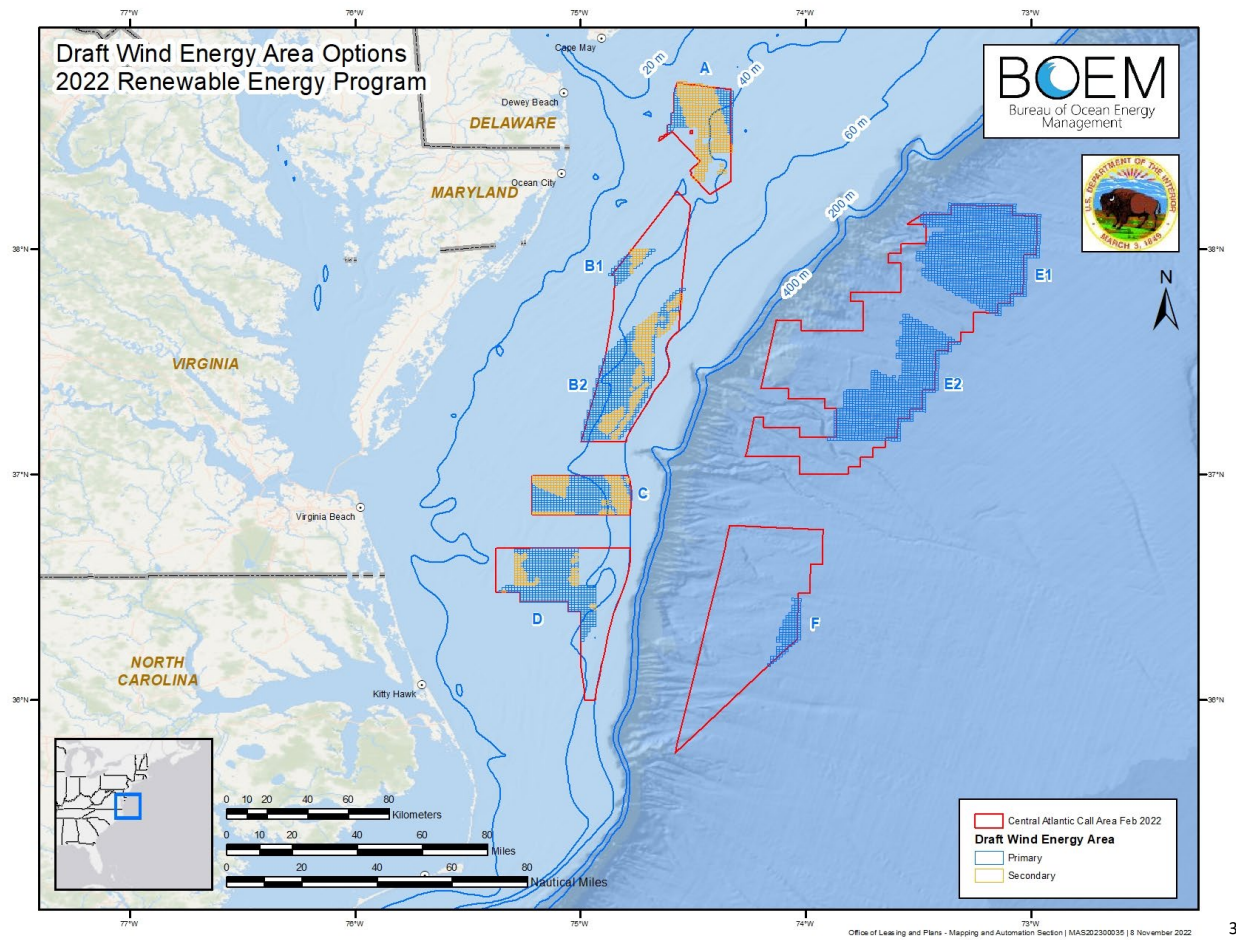
Unfortunately, there is no singular chart that depicts existing lease areas, existing planning areas, existing fisheries regulated areas, and the Master Plan 2.0 Phase areas. However, to give NYSERDA an idea of space, we have provided some images below. The first is a BOEM chart of all existing leases. The second is a chart of the Draft Wind Energy Areas in the central Atlantic, recently released by BOEM. The third is the Frank R. Lautenberg Deep Sea Coral Protection Areas, where our vessels are prohibited from fishing. The fourth is the Northeast Canyons and Seamounts Marine National Monument, where our vessels are also prohibited from fishing. These do not include the myriad of complex spatial regulations for each fishery that also currently exist in the region and dictate when, where and how commercial fishing vessels can operate.

¹ See

<https://nyserdany.webex.com/recording/service/sites/nyserdany/recording/81a3b13b3b71103bbffb0050568123d7/playback>



² See <https://www.boem.gov/All-States-Poster/>



3

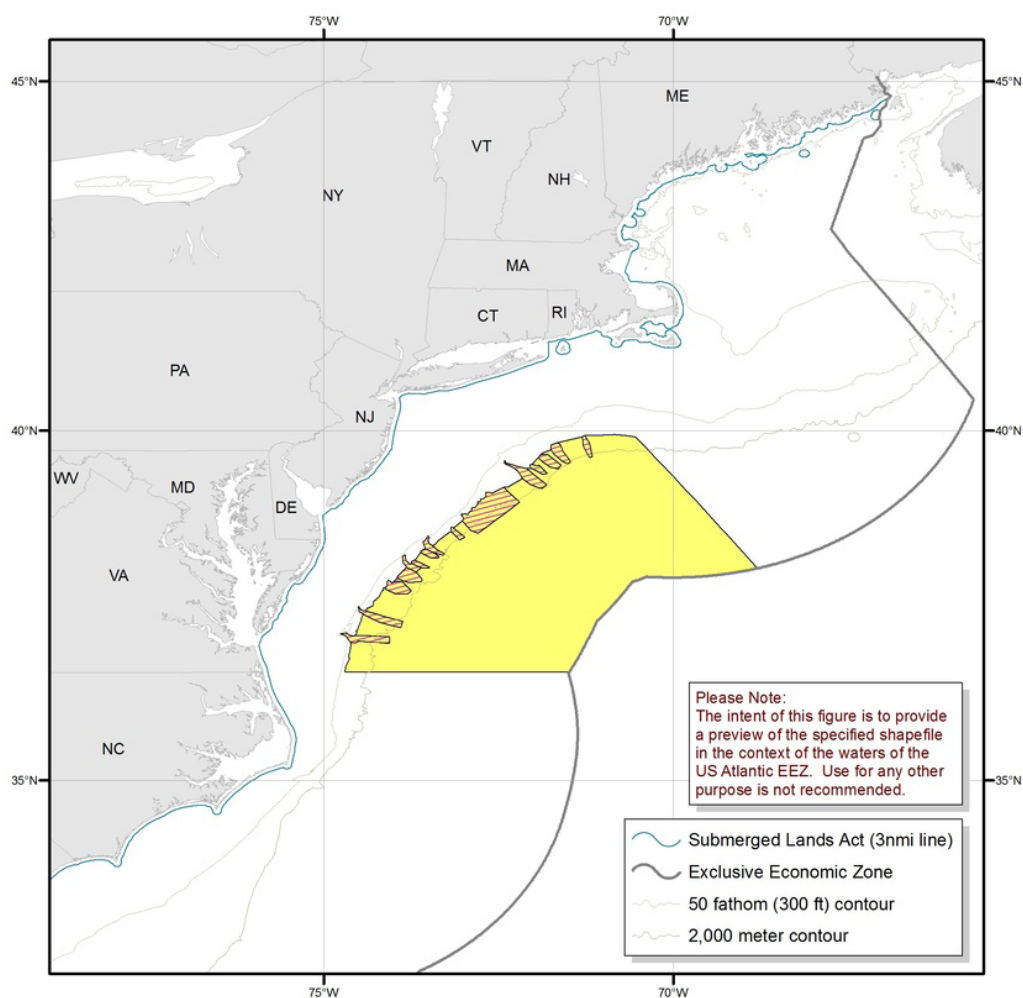
³ See https://www.boem.gov/sites/default/files/images/draft_wea_primary_secondary3.jpg.

Shapefile: Frank_R_Lautenberg_Deep_Sea_Coral_Protection_Areas.shp

Posted to Website: 4/9/2018

This shapefile includes the NMFS Regulated Areas depicted below. The dataset can be downloaded from the GARFO GIS website at <http://www.greateratlantic.fisheries.noaa.gov/gis>.

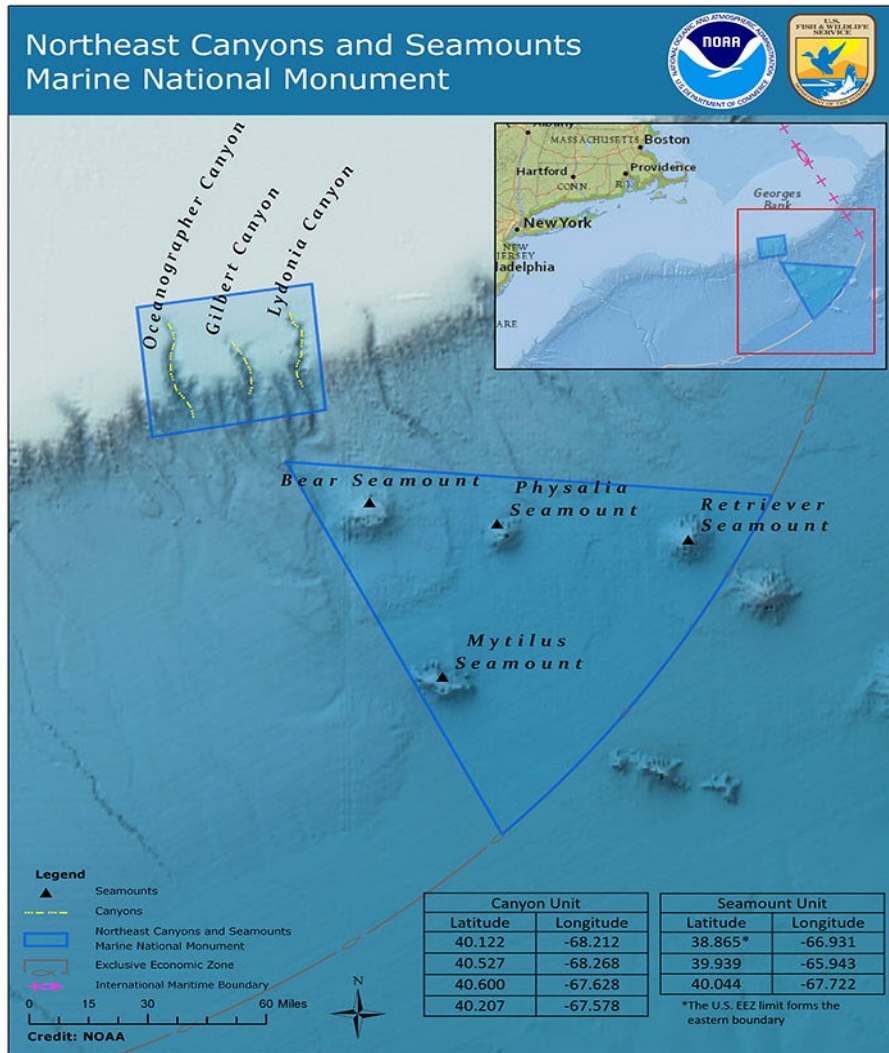
-  Discrete Deep-Sea Coral Zones (Count: 15)
-  Broad Deep-Sea Coral Zone



4

⁴ See <https://www.fisheries.noaa.gov/resource/map/frank-r-lautenberg-deep-sea-coral-protection-areas-map-gis>.

5



5

The commercial fishing industry in the Greater Atlantic Region, a NOAA Fisheries regulatory region ranging from Maine to North Carolina, for which our vessels and other impacted vessels are federally permitted, is strictly and extensively spatially regulated. This region contains too many charts to include in this comment letter. However, a quick reference to the NOAA Fisheries GIS page for New England/Mid Atlantic managed fisheries can provide an overview of how many individual charts depicting closures, gear restricted areas, management areas, stock and quota related areas, and other spatial management measures that constrain fisheries operations in the region. For Groundfish-53 charts, for Lobster- 21 charts, for Scallop- 12 charts, for Herring- 12 charts, for Monkfish- 9 charts, for

⁵ See <https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/northeast-canyons-and-seamounts-marine-national>.

Spiny Dogfish- 9 charts, for Skates- 6 charts, for Summer Flounder/Scup/Black Sea Bass- 6 charts, Mackerel/Squid/Butterfish-4 charts, for Turtle Protection- 6. charts⁶

The Regional Council Coordination Committee, representing all the U.S. Regional Fisheries Management Councils established by the Magnuson Stevens Fishery Conservation and Management Act, recently compiled a report via its Area Based Management Subcommittee on conservation areas in the U.S. EEZ created through the fisheries Management process.⁷ This technical analysis showed that between ecosystem conservation, year-round fishery management and seasonal/other fishery management, a total of 69% of the New England EEZ and 55% of the Mid Atlantic EEZ is already spatially restricted to commercial fisheries.⁸

It is beyond the scope of this comment letter to detail the interactions and interconnections between these various spatial regulations; suffice it to say that as the 7th most regulated industry in the nation,⁹ the fishing industry is much more spatially constrained than the BOEM or states processes for offshore wind lease identification and permitting. As the states and BOEM continue to completely ignore this issue and the spatial constraints on our businesses while identifying areas for offshore wind development regardless of the resulting collateral damage, we are left with no choice but to demand that both entities fully compensate for these impacts.

The cumulative impacts of offshore wind resulting from realized state ambitions such as that detailed in NYSERDA's Master Plan 2.0 on fisheries already restricted by legislatively authorized management is that there will be no more commercial fishing in the Southern New England/Mid-Atlantic region. Therefore, we request that NYSERDA, NY DOS, and the states developing the RFI for a regional fisheries compensation fund related to offshore wind include full industry buy out as a potential compensation requirement, from commercial vessels, to docks, to processors, etc. This will most likely be on the order of billions of dollars, for which the states will need to work to develop consistent and continuous funding mechanisms.

BOEM uses state renewable energy goals and mandates, as well as state Power Purchase Agreements/awarded contracts for offshore wind capacity with developers, to frame and bound its Purpose and Need statements for offshore wind project review.¹⁰ Therefore, the states, as the clear and driving forces of offshore wind development, must also be prepared to foot the bill of fisheries compensation. States can no longer be exempt from sharing in this responsibility with BOEM and developers.

While it is our intent to continue operations to the extent possible in the face of offshore development, if the OCS continues to be developed in the manner supported by the state of NY and other states, and more and more of our operational and navigable fishing grounds are usurped by

⁶ See <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/maps-and-geographic-information-systems-data-program-new-england-mid-atlantic>.

⁷ See agenda item entitled "CCC Area Based Management Subcommittee Update" at <http://www.fisherycouncils.org/ccm-meetings/may-2022>.

⁸ See "An Evaluation of Conservation Areas in the U.S. EEZ" at http://www.fisherycouncils.org/s/F2_CCCSubCtte_ConservationAreaReport_FinalDraft_2022-05-04.pdf, p. 23.

⁹ See <https://www.mercatus.org/publications/regulation/mclaughlin-sherouse-list-10-most-regulated-industries-2014>.

¹⁰ See <https://www.boem.gov/renewable-energy/boem-cop-eis-alternatives>.

offshore wind projects as BOEM and the states continue to refuse to avoid these impacts, we will eventually be unable to continue to operate. It is necessary for states such as NY to acknowledge this potential at the current time and provide financial mechanisms to address it. Absent a change of current course, NY and other states should be prepared for full commercial fishing industry buyouts due to the cumulative impacts of the Master Plan 2.0 and similar actions, including existing leases.

Thank you for the opportunity to comment.

Sincerely,

Meghan Lapp
Fisheries Liaison, Seafreeze Shoreside and Seafreeze Ltd.

CC: Greg Lampman, NYSDERDA
Conor McManus, RI DEM
Jeff Willis, RI CRMC
Brian Hooker, BOEM
Michael Pentony, NOAA Fisheries

August 22, 2022

**Comments Re: Draft Fisheries Mitigation Guidance 06232022; Document ID
BOEM-2022-0033-0003**

BOEM's Draft Fisheries Mitigation Guidance Document is a misguided and incomplete assessment of fisheries impacts. It does not bind or regulate offshore wind developers in any way, despite BOEM being the regulatory agency over offshore energy development. As such, the document is not only misguided but also meaningless. However, the agency's continued deference to developers, coupled with a refusal to analyze actual impacts to the commercial fishing industry, this guidance will perpetuate conflicts between commercial fishing and offshore wind development. Below are our comments on each section of the Draft Guidance document.

1. Introduction to Guidelines:

In this section of the Draft, BOEM states that it "requires lessees to submit information on social and economic conditions, including...commercial fishing (including typical fishing seasons, location, and type)" that could be affected by the lessee's proposed activities.....The information required in the regulations assists BOEM in complying with the Outer Continental Shelf Lands Act (OSCLA), the National Environmental Policy Act (NEPA), and other relevant laws....The guidelines in this document discuss the remaining BMPs and provide suggestions for complying with information requirements in the regulatory provisions listed above."

This reasoning is unhelpful at best and shines a spotlight on a serious flaw in BOEM's process. BOEM relies on the developer for relevant information and analysis. The developer's interest lies solely in complete project approval. By allowing developer-generated information to be the source of BOEM's compliance with its own legal duties, the process is weighted in favor of the developer from the start. It is BOEM's responsibility to gather information from the appropriate sources/cooperating agencies, conduct analysis on a developer's plan or proposal at every stage of the process, weigh it against BOEM's legal requirements, and require the developer to comply with the law. Instead, BOEM flips this responsibility around in full deference to the developer.

If a developer says something is "unfeasible", BOEM says it is unfeasible. For example, if an alternative may "reduce economic benefits from offshore wind development" because the developer applying for a permit alleges that the alternative would "increase transmission losses", create "technical complexities" or "project delay", then BOEM will

disapprove the alternative in favor of full economic benefit to the developer regardless of its other legal duties or considerations.¹

BOEM does not conduct its own analysis of or investigate developer claims; it merely accepts them and uses these claims as the basis for BOEM decision-making. In fact, early in the BOEM process that later led to the leasing of what is now known as the Equinor Empire Wind lease, the developer and BOEM told the commercial fishing industry that relocating the lease to another area off Long Island with less fisheries conflict would not be possible because the export cable length would have to increase, losing too much electricity and making the project unviable. However, now Equinor is planning an export cable well over 100 miles long from a lease off the coast of Massachusetts running all the way past Rhode Island, past Connecticut, and into New York City.² Apparently, longer cable routes are not actually such an issue. But it is now too late to relocate the Empire Wind lease site and reduce conflicts, as the commercial fishing industry had asked and other federal agencies and Congressional officials suggested, prior even to the leasing stage.³ BOEM does not critically validate or scrutinize developer claims. This Guidance document perpetuates that problem.

This theme of abdication of agency responsibility is consistent across the board throughout the BOEM process, even regarding cooperating agencies. For example, despite the fact that the U.S. Coast Guard is the federal agency responsible for maritime safety, rather than conduct an independent analysis of various aspects of maritime safety such as radar interference as regards offshore wind installations, the U.S. Coast Guard relies on the developer's Navigation Safety Risk Assessment to analyze impacts.⁴ Such deference to the developer via the BOEM process has attracted sharp bipartisan criticism from the U.S. House Committee on Transportation and Infrastructure. According to the Committee Chair and Ranking Member, "The Coast Guard...holds sole responsibility for ensuring safety in U.S. waters....In 2019, the Coast Guard's Notice of Availability of the Massachusetts and Rhode Island Port Access Route Study (MARIPARS) failed to incorporate findings and comments provided by the fishing community that highlight safety and transiting concerns. These concerns went beyond the general siting of offshore energy leasing areas, touching on navigational safety (including the potential for increased future traffic volumes, which was not fully reviewed), search and rescue capabilities, and the effect that turbine arrangements are known to have on radar interference. Last month, some unanswered concerns in the MARIPARS were reiterated to the USCG in the initial comment period for the Maine, New Hampshire, and Massachusetts PARS....Unfortunately, the indication we have received from stakeholders is that the USCG has become less responsive over time to questions and suggestions on these issues and has instead allowed BOEM to drive the planning process. It is not enough for the USCG to oversee safety measures after transit areas are established with other parameters in mind; therefore, we respectfully remind you that it is the Coast Guard's duty to assert itself as the entity responsible for determining how transiting routes

¹ See Vineyard Wind ROD, p. 25.

² See attached Beacon Wind cable route.

³ See attached NMFS comment letter on the NY WEA EA, dated July 11, 2026, and attached letter to BOEM Director Hopper from U.S. Senators Reed and Whitehouse, dated September 21, 2016. See also Glenn Goodwin Declaration, *Fisheries Survival Fund et al v Jewell* (D.C. Cir. 2018), attached.

⁴ See attached letter to R.I. Senator Sosnowski from the U.S. Coast Guard, dated November 25, 2019.

are laid out so that maritime space is safe for all users for the foreseeable future. As such, we request that you use your authority under section 46 U.S.C. 70003(a), to ensure the paramount use of areas designated as port access routes is navigation.”⁵ In many cases of navigational hazard, such as radar interference and loss of HF radar for search and rescue, the U.S. Coast Guard defers to BOEM as the permitting agency to make impact determinations. As the U.S. Coast Guard has allowed BOEM to drive the planning process, BOEM has allowed the developer to drive the planning process.

BOEM needs to start taking its role as a regulator seriously. BOEM exists to regulate offshore wind. Not promote it, not rubber-stamp it. The government regulates; that is its job. By allowing the developer to be the entity generating information necessary for BOEM’s compliance with its own legal obligations, the tail is wagging the dog. This will lead to continued conflicts, unacceptable fisheries impacts and litigation.

2. Authority and Regulations:

BOEM in this section highlights another deficiency in its own process. This section states, “For **BOEM to evaluate** potential impacts to social and economic conditions of the fishing industry, a lessee’s SAP, COP, or GAP should provide the necessary information to assist BOEM in determining whether the proposed activities could result in unreasonable interference with other uses of the OCS...(emphasis ours)”. Again, this is backwards- the developer, who only has a vested interest in 100% project approval, is the entity providing all the information that BOEM needs to evaluate unreasonable interference with other uses of the OCS. Does BOEM truly believe that the developer will provide evidence to BOEM that its project will have negative impacts on the commercial fishing industry or indeed any other user if it risks project disapproval? Does BOEM truly believe that the developer will provide evidence to BOEM that its project will result in unreasonable interference to the fishing industry or marine navigation? Of course not.

The BOEM regulations cited in the Draft Guidance show that lessees are required to demonstrate that they “have planned and are prepared to conduct the proposed activities in a manner that does not unreasonably interfere with other uses of the OCS.” Yet BOEM has no regulations even defining what unreasonable interference is, or thresholds for what constitutes unreasonable, or even for what constitutes interference. For commercial fishing, BOEM and developers have refused to recognize that offshore wind farms will create de facto closed areas for certain types of fisheries and gear types, despite information provided to the agency by industry as well as documented examples from overseas where this has occurred.⁶ Yet, BOEM continues to refuse to truly recognize this as interference and continues to incorrectly assume that fisheries can “adapt” over time, which is unsupported and even contradicted by existing evidence.⁷ We address this issue later in our comments in more detail.

⁵ See attached letter to Admiral Fagan, Commandant U.S. Coast Guard, from U.S. House Committee on Transportation and Infrastructure leadership, dated July 6, 2022.

⁶ See, for example, our Vineyard Wind SEIS comments, p. 38-43.

⁷ For example, in a report by Gray et al for the UK Crown Estate, “Changes to fishing practices around the UK as a result of the development of offshore wind farms- Phase 1 (Revised)”, the authors state: “Findings suggest that fishing activity within OWF boundaries has changed, primarily because fishermen are fearful of fishing gear becoming entrapped by seabed obstacles such as cables, cable crossing points and rock armouring, and wary of

Without any clear guidelines on what constitutes interference or any threshold for what constitutes reasonable vs unreasonable, BOEM simply gives the developers a blank slate to determine this on their own. There is zero benchmark. According to BOEM's most recent Solicitor opinion on the topic, the Secretary has the discretion to determine what constitutes interference with reasonable uses.⁸ If this is the case, where are the corresponding agency guidelines to aid in decision making? If the Secretary has the discretion as well as the duty to make this determination, why does the agency leave the information collection and burden to satisfy an undefined legal mandate to the developer?

Before BOEM moves to finalize any Guidelines for Fisheries Mitigation and Compensation, it must first develop its own enforceable regulatory guidance on unreasonable interference. Leaving that burden to the developer is dereliction of BOEM's regulatory duties, arbitrary, capricious and unsupportable. Contrary to BOEM's assertions in the Guidance public comment period that it cannot revise its regulations on issues related to this Draft Guidance, BOEM can revise its regulations and has done so recently on other subjects. BOEM can and should revise its own regulations prior to further development of this initiative in order to provide clarity and take responsibility over its own regulatory authority.

As the Outer Continental Shelf Lands Act, as amended in 2005, mandates that "[t]he Secretary shall ensure" that offshore wind leasing "is carried out in a manner that provides for...prevention of interference with reasonable uses (as determined by the Secretary) of the exclusive economic zone, the high seas, and the territorial seas", and as commercial fishing is clearly a reasonable use of the ocean- not only in a common sense determination but also as evidenced by the fact that other federal legislation (the Magnuson Stevens Fishery Conservation and Management Act) regulates fishing in the EEZ, the fact that NOAA as a federal agency permits, regulates and enforces compliance with these permits and regulations to fish in the EEZ, and the fact that USCG regulations/COLREGS specifically mention fishing with regards to navigation and "rules of the road" in the ocean- then, prevention of interference with reasonable uses clearly applies to commercial fishing. If fishing were not a reasonable use of the ocean, there would not be federal agencies legislatively designated to manage and regulate it. Therefore, the very first and foremost action taken by a developer to prevent unreasonable interference with commercial fishing is **avoidance**. Avoidance of siting and building offshore wind facilities on commercial fishing grounds in the first place. Yet this very obvious and blatant first step of "mitigation" is not even mentioned by the Draft Guidance.

This should be the primary focal point of the Draft Guidance, and any accompanying BOEM regulations or guidance regarding unreasonable interference. It is mind boggling that the agency would completely omit the most important aspect of fisheries mitigation in a Draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries. BOEM cannot omit avoidance as the very first requisite step in fisheries mitigation. It should be the very first section

vessel breakdown with the consequent risk of turbine collision. Wind farm maintenance work was claimed to cause disruption to fishing (for example interrupting tows) and increasing steaming distances to fishing grounds, although fishing is not prevented within OWFs" (p. vi) and "Existing datasets (VMS, landings and sightings) and information from fishermen and fisheries officers, revealed that fishing activity had declined in the five wind farm sites following their construction" (p. 12).

⁸ See <https://doi.gov/sites/doi.gov/files/m-37067.pdf>.

of this Draft. Except that it cannot be or remain simply Guidance. It has to be regulatory and enforceable, in compliance with BOEM's legal responsibilities.

While two very different Department of Interior Solicitor memorandums (M-37059 and M-37067) have been issued as to the interpretation of the statutory mandate to prevent interference with reasonable uses of the ocean per OSLA, both acknowledge a statutory duty to do so. Therefore avoidance of fishing grounds so as to prevent interference with commercial fishing should be the first step in statutory compliance. The two legal memos differ on how absolute this requirement is, whether or how it is balanced with other duties or statutory provisions, etc., but nevertheless emphasize a need to at least attempt to prevent unreasonable interference with other uses. Which is listed in the Draft Guidance as a regulatory component for a SAP, COP or GAP- but only for information required by developers to submit to BOEM. The law doesn't put the burden on the developer; it puts it on the Secretary and by implication, BOEM. BOEM must ensure that it conducts its process in such a way that it prevents interference with reasonable uses. Therefore, BOEM must include avoidance as the very first step in fisheries mitigation. If it intends the Draft Guidance to remain only guidance, then BOEM must revise its own regulations and procedures to require avoidance up front, as this is not an optional component of the offshore wind leasing process. It is a legal one.

This approach is further solidified by the CEQ regulations (40 CFR 1508.1(s)) referenced by the Draft. The very first recommended practice for mitigating impacts to commercial and recreational fishing is "Avoiding the impact altogether by not taking a certain action or parts of an action". When avoidance occurs, it negates the need for further action, including compensation or other remedies proposed by BOEM in the Draft Guidance. By omitting avoidance as a key focal point in this document, BOEM is indicating to the fishing industry that it has no intent of avoidance whatsoever. And that is a major problem.

3. General Approach to Developing Mitigation Measures:

In this section, BOEM lists various tools to help a developer "identify [fishing] communities to engage", pre-activity, so that the developer can make "reasonable efforts" (whatever that means, since it will mean different things to the fishing industry than it will to a developer) to mitigate impacts via communication. However, BOEM does not even mention engaging with RODA, the only national organization of commercial fishermen, businesses, and communities dealing with offshore wind, despite BOEM having an MOU with RODA. Furthermore, developer "engagement" with fishing communities is largely worthless unless there are regulatory requirements binding that create actionable outcomes. The commercial fishing industry has been "engaging" with developers as well as BOEM for many years now and has continually raised the same issues which continue to go unaddressed. "Guidance" for more communication without actionable outcomes is not helpful. It is counterproductive.

4. Project Siting, Design, Navigation, and Access:

Ironically, this section fails to mention any burden on or from BOEM to consider Project Siting. It doesn't even mention siting in the context of the developer. It discusses facility design, cable design, turbine and substation design, but fails to actually discuss the first element of the heading: Project Siting. As detailed previously, this is the single most important aspect of the offshore leasing process. If project siting involves avoidance of fishing grounds, the rest of the

Draft document is a moot point. However, that is a BOEM responsibility and a request we have made for years to the agency. The only time this section mentions avoidance during siting is “Turbine locations should be sited to avoid known sensitive benthic features, such as natural and artificial reefs”. Why does BOEM omit giving the fishing industry at least the same consideration as an artificial reef? Again, BOEM must be specific in its guidance and regulations that avoidance of commercial fishing grounds is the first step in this process, for both itself and the developer.

See footnote 3 of this comment for document references that demonstrate how Project Siting could have avoided what has now become a fisheries conflict. In that case, because a Call Area had been identified on top of clearly identifiable commercial fishing grounds for multiple fisheries, in particular the longfin squid fishery, both NOAA and legislative officials requested to relocate the area prior to leasing and therefore prior to any developer commitment. BOEM chose instead to ignore these requests. Project Siting is the most important mitigation measure and cannot be overlooked as the single most effective way to minimize impacts on commercial fisheries.

BOEM must also consider how its Draft Mitigation document interacts with its other policies. On June 23, 2022, on the same day that it released its Draft Fisheries Mitigation Strategy,⁹ BOEM announced that it has standardized its NEPA review for offshore wind in such a way that makes the relevant CEQ regulations (40 CFR 1508.1(s)), as well as the Draft documents tenets of “Project Siting, Design, Navigation and Access” impossible to follow. The CEQ regulations that recommend “avoiding the impact altogether by not taking a certain action or parts of an action” or designating areas of a lease as no build zones to accommodate transit lanes for commercial fishing transit through the project area have been rendered defunct by BOEM’s new standardized NEPA approach to developing alternatives for review. In fact, the new NEPA standardization for offshore wind constrains BOEM approval of NEPA alternatives for analysis to deliberately exclude anything other than full buildout of the project.

BOEM has never taken public comment on this new NEPA standardization, which is not surprising considering the uproar this approach would generate from all stakeholders other than developers. The document, titled “Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (NEPA)” identifies “screening criteria” for “selecting which alternatives to analyze in detail” at the COP EIS stage,¹⁰ which is the only juncture in the BOEM process where impacts to fisheries as well as other resources are analyzed in detail.

The document explains that the project COP, as well as BOEM analysis of said COP, must meet the “Purpose and Need” for the COP EIS. Only alternatives that meet the Purpose and Need will be analyzed in detail in the COP EIS. These new and standardized “screening criteria” include: “state laws that establish renewable energy goals and mandates”, the “applicant’s primary goal(s)”, “awarded contracts for offtake” (i.e. developer power purchase agreements

⁹ See <https://www.boem.gov/newsroom/notes-stakeholders/boem-standardizes-process-environmental-reviews-offshore-wind> and <https://www.boem.gov/newsroom/press-releases/boem-seeks-public-comment-draft-fisheries-mitigation-strategy>.

¹⁰ See <https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf>.

with state utilities), and “the MW nameplate capacity for the proposed project”.¹¹ Therefore, if the developer has proposed a 500 MW project, contracted with a state utility in a power purchase agreement for a 500 MW project prior to COP review- never mind adding if the state has mandated a certain amount of offshore wind nameplate generation- BOEM’s NEPA review cannot disapprove, for example, 30% of the project lease for buildout to accommodate commercial fishing interests, or designate a no- build transit lane through the project to accommodate safe commercial fishing vessel transit through a WEA, or any other alternative that would not include 100% buildout of the project. No alternative other than the developer’s nameplate capacity and/or its power purchase agreement with a utility can even be CONSIDERED in analysis. In effect, BOEM has simply become an arm of the developers themselves. This is unethical, an artificial constraint of legal review, and on its face illegal.

The NEPA standardization document also specifically outlawed relocating a majority of the project outside of the defined project area into a different portion of the lease held by the applicant, i.e. avoidance. Therefore, if a project is sited on heavily fished ground, and if relocating the project to a different area of the same lease would deconflict and avoid interference with a commercial fishery, no such alternative will be considered by BOEM. BOEM has simply made its standardized process in such a way as to exclude consideration of all ocean users, including commercial fishing, other than developers. This is also on its face a violation of the Outer Continental Shelf Lands Act requirement that BOEM prevent interference with reasonable uses of the ocean. Reasonable uses would of course include federally permitted uses of the ocean such as commercial fishing. However, if BOEM has effectually constrained itself in such a way that its process cannot prevent interference with these uses, its process in turn violates OCSLA.

BOEM alleges in its NEPA standardization document that a lease area for which a COP is submitted “represents the defined geographic area and has been analyzed for consistency with the Outer Continental Shelf Lands Act (OCSLA)” including “consideration of other ocean and OCS uses”. This is completely false and what led to the letters noted in footnote 3 of this comment, as well as what prompted legal action by the fishing industry over what is now the Equinor Empire Wind lease.¹² Wind farm impacts to commercial fisheries are not considered by BOEM until after the lease is issued, during the project COP analysis stage.¹³ BOEM argued in the Empire Wind case that the lease EA and associated lease issuance merely authorized site assessment activities, not future construction activities, and therefore did not impact fisheries. No OCSLA compliance analysis was done to consider fisheries use of the area and the future foreseeable impact of a wind farm in the lease.

In fact, the entire challenge to the lease was due to the fact that the lease was sited on a heavily fished area with no analysis of what that meant for fisheries stakeholders, and no attempt was made to re site the lease prior to lease sale- i.e. to prevent interference with reasonable uses of the ocean- even after suggestions to do so from NMFS and various elected officials, as well as stakeholders. The fishing industry argued that per NEPA, the future

¹¹ See <https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf>, p. 3.

¹² ¹² See *Fisheries Survival Fund et al v Jewell* (D.C. Cir. 2018).

¹³ While the NY Bight process did examine some fisheries impacts prior to leasing, this was an anomaly in the BOEM process thus far.

foreseeable impact of a wind lease was a wind farm. Attempts to de-conflict at the leasing stage in order to avoid fisheries impacts fell on deaf BOEM ears. The court held that the future foreseeable impact of a wind lease did not include a wind farm, as the lease only authorized site assessment activities, not construction of a project.

To date, all commercial fisheries “future foreseeable impacts” resulting from a wind lease that consider ultimately a wind facility are only analyzed at the COP EIS/ROD stage. It is at this stage that NEPA consideration of impacts, and ultimately OSCLA compliance, is analyzed. Now that BOEM has standardized its NEPA analysis in such a way that fisheries avoidance or prevention of interference with reasonable uses in the form of disapproval/partial disapproval/project relocation within a lease is impossible, because doing so would not meet the Purpose and Need of the COP EIS, BOEM has artificially tied its own hands from complying with the law.

The judge in the Equinor case stated that because BOEM reserves the right to cancel a lease, or reject a developer’s COP, due to results from environmental and socioeconomic reviews that occur later in the process after leasing and the lease EA (i.e the COP EIS stage), that the fishing industry had no immediate effect on their legal interests as a result of the EA/lease sale itself. This was because the judge asserted BOEM would conduct this environmental and socioeconomic NEPA analysis at the COP EIS stage, make a decision based on that analysis, and approve or disapprove a project at that time. Therefore, the judge ruled that the fisheries claims under NEPA and OSCLA were not “ripe” for consideration at the leasing stage because BOEM retained the “right to disapprove.... A COP based on the Lessor’s determination that the proposed activities would have unaccepted environmental consequences” . This decision alone demonstrates that the lease sale itself is NOT analyzed for consistency with OSCLA, contrary to the claim made in BOEM’s NEPA standardization document. It also runs contrary to BOEM’s new standardization.

With its new NEPA standardization, BOEM cannot reserve the right to cancel a lease, reject, partially reject, or even relocate a developer’s project within the lease to “avoid the impact altogether by not taking a certain action or parts of an action” per CEQ regulations (40 CFR 1508.1(s)). BOEM makes the Equinor judge rationale moot. Instead, it constrains its own NEPA analysis only to alternatives that completely fulfill a developer’s goals, and full buildout of the project or pre-planned power purchase agreements. There is now no distinction between the agency and the offshore wind industry.

BOEM cannot simply wash its hands of its statutory duties under OSCLA, or NEPA, simply by creating an unenforceable “Draft Fisheries Mitigation Document” that shows by its own terms BOEM’s failure to comply with both statutes. It cannot use the Draft Fisheries Mitigation document to excuse or compensate for the fact that it has not only completely abdicated its legal responsibilities to developers but actually designed its own NEPA process in such a way that only the project goals, nameplate capacity of the project, and pre-existing power purchase contracts of the developer can receive final agency approval. However, it is very apparent from the omissions contained in the Draft Fisheries Mitigation Document, as well as the inclusions in its NEPA standardization document, that this is precisely what BOEM intends to do.

With this in mind, it is difficult to even determine a reason for commenting on the Draft Fisheries Mitigation Document from a stakeholder perspective. The process is so broken, so pre-

arranged so as to completely fail fisheries interests in favor of developer interests, that an unenforceable agency “mitigation” plan appears more of a smokescreen than an authentic endeavor.

5. Safety Measures:

During BOEM’s presentation given during its public meetings on the Draft Guidance, it suggests “considering lessee- funded radar system upgrades for commercial and for hire recreational fishing vessels (e.g. solid state Doppler-based marine vessel radar systems)”.¹⁴ The Draft Guidance reiterates this approach on page 6. BOEM must not have read the results of its own BOEM-sponsored study conducted by the National Academies of Science, “Wind Turbine Generator Impacts to Marine Vessel Radar (2022)”.¹⁵ That study states, “As presently deployed, WTGs reduce the effectiveness of both magnetron-based and Doppler-based MVR...It is noteworthy that there are no published studies of WTG interference on Doppler-based solid-state radar used for marine navigation.”¹⁶

It is no surprise to us that the NAS study confirmed the very real problem of radar interference due to offshore wind for all vessel classes, that the vast size of projects planned for US waters exacerbates the problem, confirmed that the larger the turbines the bigger the problem, confirmed that this radar interference will compromise USCG search and rescue, with no solutions to the problem at this time and that potential solutions require more investigation before they can be deployed.¹⁷ We have highlighted these issues to BOEM multiple times. In fact, some of the information regarding radar interference we supplied to both the USCG and BOEM in our comments on the Vineyard Wind SEIS is quoted by the NAS report.¹⁸ Unfortunately, this information was ignored by BOEM and went unaddressed. BOEM can no longer ignore the very real navigational and life-threatening hazard to mariners resulting from marine vessel radar interference due to its approved projects. It cannot ignore the findings of a report it itself commissioned. And it cannot continue to hang its hat on unproven technology as the solution to this problem. Rather, BOEM and the USCG should commission real-life trials of solid-state/Doppler radar in large scale offshore wind farms in the UK to test if solid state/Doppler technology can reduce interference to a more manageable level. The fact that no studies regarding solid state/Doppler marine vessel radar and wind turbine interference exist despite both existing in Europe is a tell-tale that no panacea currently exists for marine vessel radar interference from wind farms, including solid state/Doppler radar.

¹⁴ See <https://www.boem.gov/newsroom/press-releases/boem-seeks-public-comment-draft-fisheries-mitigation-strategy>, slide 24.

¹⁵ “Wind Turbine Generator Impacts to Marine Vessel Radar (2022), National Academies Press, available at <https://nap.nationalacademies.org/catalog/26430/wind-turbine-generator-impacts-to-marine-vessel-radar>.

¹⁶ “Wind Turbine Generator Impacts to Marine Vessel Radar (2022), National Academies Press, available at <https://nap.nationalacademies.org/catalog/26430/wind-turbine-generator-impacts-to-marine-vessel-radar>, p. 5; emphasis ours.

¹⁷ “Wind Turbine Generator Impacts to Marine Vessel Radar (2022), National Academies Press, available at <https://nap.nationalacademies.org/catalog/26430/wind-turbine-generator-impacts-to-marine-vessel-radar>, p. 4, 5, 10, 14, 76.

¹⁸ “Wind Turbine Generator Impacts to Marine Vessel Radar (2022), National Academies Press, available at <https://nap.nationalacademies.org/catalog/26430/wind-turbine-generator-impacts-to-marine-vessel-radar>, see Figure 1.3, p. 13 and our Vineyard Wind SEIS comment letter at p. 56.

The safety measures proposed in the Draft also simply include “monitoring safety threats” including radar interference, collisions, allisions, impacts on search and rescue etc., throughout the life of the project. Monitoring does nothing. Corrective action, clearly prescribed, and clearly enforceable, is necessary. Particularly when dealing with safety at sea. BOEM seems intent on keeping interaction with anything that could be difficult or costly for a developer to “monitoring”, “engagement”, or some other non-actionable approach. This is unacceptable. Again, we assert that the regulator must regulate the regulated. Suggestions, non-committal approaches that have no real action associated with addressing an issue, and non-actionable recommendations are completely useless in practice. Simply monitoring vessel collisions, monitoring loss of life at sea due to lack of accurate radar or loss of search and rescue capabilities, and the like do nothing. If BOEM acknowledges that these are real issues, BOEM needs to come up with a plan of how to correct and address each one of these impacts. Without a pre-determined game plan, you lose the game. And there is no second chance once the game is over. BOEM, prior to any ROD approvals, must address these issues with clearly prescribed and enforceable corrective action in a comprehensive manner. If the agency refuses to do this, we will simply have 30 years of approved projects in the ocean where nothing can be done or required of developers who have already received approval to truly mitigate impacts. Loss of life and safety at sea is too important a topic to be left to merely “monitoring”.

We also suggest that BOEM include in a list of safety issues to be comprehensively addressed that of unexploded ordinance (UXO). To date, UXO in an approved wind farm lease has been dug up during pre-construction operations, exposed, and left on the ocean floor in heavily fished mobile bottom tending gear fishing grounds with high potential for interaction, potentially fatal interaction, with commercial fishing vessels.¹⁹ This danger should be not only broadcast over every means possible to alert mariners to the danger, but also have a clear course of action and timeline for that action. To date, the 1000 lb UXO has been exposed for over a month with no clear plan for its removal. In the UK, the current practice of UXO detonation for removal of UXO during wind farm construction results in explosion, underwater noise affecting marine mammals and commercially harvested species; other alternatives such as Low-Order slow burn used to burn out munitions from the inside of the casing of a UXO will often result in sea pollution due to the deposit of hazardous waste on the seabed.²⁰ Both of these methods will have negative impact on the commercial fishing industry and must be addressed.

6. Environmental (Fisheries) Monitoring:

There are far too many environmental issues to address in this comment. However, the Draft Guidance in this section specifically mentions “the need and methods to monitor changes in fishing activity as a result of offshore wind development.” This is not difficult. Vessel Monitoring System data will show that vessels avoid both fishing in a wind farm and transiting through a wind farm. Vessels have already changed their transit patterns because of the five

¹⁹ See Vineyard Wind Notice to Mariners No. 63 at https://www.vineyardwind.com/mariners-updates/63?utm_campaign=Weekly%20OWMUs&utm_medium=email&hsmi=222566663&hsenc=p2ANqtz-9f1GnjIQ-kG6CDEZUK9TGUCQi1lg54Lib4MFVS_72Mzn8RZIA5IH5RXI_n6ZqcwiKpkTSXDDZ33DxJ7fNK3fUZ5bNz1Q&utm_content=222566663&utm_source=hs_email, and email, attached.

²⁰ See <https://www.marinelink.com/news/navigating-a-minefield-why-uxo-hamper-uks-498869>.

Block Island Wind Farm turbines. They will certainly change their patterns for both transit and fishing as a result of thousands of turbines up and down the East Coast. The most disruptive impacts could easily be avoided through careful project siting; however, it is clear from the Draft Guidance and BOEM's recent NEPA standardization that BOEM has no intent to go down this path.

It is also substantially documented that mobile bottom tending gear, particularly bottom trawl, vessels cease fishing activity in offshore wind farms. The UK Crown Estate, the entity that oversees offshore wind in the UK, as early as 2016 released data demonstrating that "fishing activity within offshore wind farms has changed, primarily because fishermen are fearful of fishing gear becoming entrapped by seabed obstacles such as cables, cable crossing points and rock armouring, and wary of vessel breakdown with the consequent risk of turbine collision", including avoidance of export cable routes.²¹ Notably, BOEM has refused to acknowledge the impacts of export cable routes in past analysis; it cannot continue to ignore these impacts. This report points to VMS data as some of the strongest evidence of changes to fishing in offshore wind farms.²²

It is also notable that notices to mariners jointly from the UK's Kingfisher Information Service (a fisheries information service providing fishermen the location of subsurface and subsea hazards around the UK) and developers themselves already contain such statements as "The closer to the surface a subsea cable is lifted when fouled by fishing gear, the more damage there is to the fishing vessel. In the interests of fishing safety and to prevent damage to subsea structures fishermen are advised to exercise caution when fishing in the vicinity of subsea cables and renewable energy structures. Loss of gear, fishing time, and catch can result if a trawler snags a subsea structure and there is serious risk of loss of life."²³ Essentially, bottom trawl vessels are warned to steer clear of offshore wind farms and export cables. BOEM has already received this information multiple times. It cannot keep pretending that it has not.

Similarly, a 2016 Rhode Island DEM report provided to BOEM and attached as part of this comment, raised the issue of bottom trawl vessel de facto exclusion from offshore wind farms.²⁴ That report referenced UK experiences in loss of bottom trawl activity in offshore wind farms, as well as NOAA Fisheries comments that WEAs could prevent highly mobile gear from fully utilizing developed areas. BOEM itself has acknowledged that bottom trawl fisheries such as the squid trawl fishery will not be able to operate inside offshore wind farms, "some fisheries-like the squid trawl fishery- may not be able to safely operate and harvest the resource the resource in the WDA using status quo fishing techniques. In this situation, a large portion of annual income for vessels may be inaccessible during operations, resulting in major impacts on individual vessel owners..."²⁵ Not all fisheries operate in the same manner. It is clear from existing analysis and experiences elsewhere that bottom trawl fisheries will lose huge amounts of fishable area as a result of BOEM's offshore wind bonanza. This must be incorporated into all fisheries impacts analysis.

²¹ Gray et. al. "Changes to fishing practices around the UK as a result of the development of offshore windfarms – Phase 1 (Revised)", The Crown Estate, 2016, p. vi, 1.

²² Ibid, p. 11.

²³ See p. 38-39 of our comments to BOEM's Vineyard Wind SEIS. Emphasis ours.

²⁴ RI DEM, Division of Fish and Wildlife, Marine Fisheries Section, "Rhode Island Stakeholder Concerns Regarding the New York Wind Energy Area", 2016.

²⁵ See Vineyard Wind DEIS at [Vineyard Wind Offshore Wind Energy Project Draft EIS \(boem.gov\)](https://www.boem.gov/Vineyard-Wind-Offshore-Wind-Energy-Project-Draft-EIS), p. 3-184.

A recent 2022 report from the UK entitled “Spatial Squeeze in Fisheries” analyzes the impacts and potential future impacts to commercial fisheries in the UK due to offshore wind farms and fisheries closures themselves, as the two cannot be disassociated when determining cumulative impacts. Each fishery must be analyzed in this way, as each fishery is subject to its own set of spatial regulations, preventing vessels displaced by wind farms from simply relocating to another area. The entire fisheries regulatory context must be considered when conducting analysis for cumulative impacts regarding offshore wind. The fisheries regulations already exist. Many fishable areas currently available outside closed or regulated areas are located in what now are BOEM wind leases. The cumulative impact of essentially creating a closed area via a wind farm on what is currently “open” bottom can ultimately be the complete closure of a fishery. That is, in fact, what the “Spatial Squeeze in Fisheries” paper found- that due to the combination of both fisheries regulations and offshore wind development that by 2050 it is quite possible that there will be no bottom trawling left in the UK.²⁶ The report focused on bottom trawling because bottom trawling is already being impacted by displacement from offshore wind farms.²⁷ We suggest that BOEM incorporate this same type of analysis, which is already being driven by real-life experience, into all of its NEPA review for fisheries, including cumulative impacts, moving forward. The report has been provided as an attachment to this comment.

Another valuable resource for BOEM to incorporate into analysis regarding existing fisheries closed/regulated areas and particularly cumulative impacts has recently been completed by the federal fisheries Council Coordinating Committee. This Committee consists of the chairs, vice chairs, executive directors and appropriate staff of the legislatively established Regional Fishery Management Councils. In response to the Biden Administration’s 30x30 America the Beautiful initiative, which is frequently cited as BOEM as a Purpose and Need of proposed offshore wind actions, the Council Coordinating Committee established an Area-Based Management Subcommittee which met from November 2021 through May 2022 to investigate and quantify the area-based fishery and environmental conservation protections currently in place in each federal U.S. ocean region.²⁸ The draft report completed by the Subcommittee, entitled “An Evaluation of Conservation Areas in the U.S. EEZ” modeled its definition of conservation area after America the Beautiful and IUCN definitions and utilized standard methodology across the US for its analysis.²⁹ The results demonstrated 55% conservation of the Mid Atlantic EEZ and 69% conservation of the New England EEZ.³⁰ This amounts to tens of

²⁶ ABPmer, (2022). Spatial Squeeze in Fisheries, Final Report, ABPmer Report No. R.3900, June 2022, p. v; report attached.

²⁷ Ibid, p. ii.

²⁸ See

https://static1.squarespace.com/static/56c65ea3f2b77e3a78d3441e/t/6272e64278679a29eb03e5bf/1651698562632/F4_MeetingMinutes_CCC_ABMSubcommittee.pdf.

²⁹ See the Draft Report at

https://static1.squarespace.com/static/56c65ea3f2b77e3a78d3441e/t/6272ebae0d318014e42b96aa/1651698616717/F2_CCCSubCtte_ConservationAreaReport_FinalDraft_2022-05-04.pdf.

³⁰ See [https://s3.us-east-](https://s3.us-east-1.amazonaws.com/nefmc.org/8a_F1_CCCABMSubcommittee_Talk_May2022_Revised.pdf)

[1.amazonaws.com/nefmc.org/8a_F1_CCCABMSubcommittee_Talk_May2022_Revised.pdf](https://s3.us-east-1.amazonaws.com/nefmc.org/8a_F1_CCCABMSubcommittee_Talk_May2022_Revised.pdf), slide 13, and Draft Report at

https://static1.squarespace.com/static/56c65ea3f2b77e3a78d3441e/t/6272ebae0d318014e42b96aa/1651698616717/F2_CCCSubCtte_ConservationAreaReport_FinalDraft_2022-05-04.pdf, p. 23.

thousands of square miles off of the New England and Mid Atlantic coasts that is already spatially regulated for the commercial fishing industry. We have attached that report to this comment for future BOEM use in cumulative impacts analysis.

7. Financial Compensation:

First and foremost, we reiterate that proper adherence to OSCLA through avoidance- i.e., prevention of interference with reasonable uses- would make this entire section a moot point. BOEM continues to claim that it does not have legal authority to establish a compensation fund on its own. This is true. This is because BOEM has a legal duty to prevent interference with reasonable uses such as commercial fishing as a mandate when leasing for offshore wind. This stands in stark contrast to BOEM's statutory obligations under OSCLA regarding oil and gas leasing.

It is the same law, OSCLA, that grants BOEM authority for both oil and gas leasing and offshore wind leasing. However, the provisions for the two types of leasing are not alike. BOEM has no statutory duty to prevent interference with reasonable uses of the ocean when conducting oil and gas leasing. This is why OSCLA legislatively provides for the "Fisherman's Contingency Fund" in Part 296 of the law.³¹ This Fisherman's Contingency Fund is created to cover economic losses of income and property as a result of damage caused by oil and gas obstructions on the Outer Continental Shelf. Because BOEM is not required to prevent interference with reasonable uses such as commercial fishing when leasing for oil and gas, such a contingency fund was necessary. In contrast, the OSCLA provisions regarding offshore wind leasing create no similar statutory authority or obligation. Instead, when conducting offshore wind leasing, OSCLA mandates that the Secretary must do so in a way that prevents interference with reasonable uses of the Outer Continental Shelf. Congress mandated avoidance as the one and only solution to addressing fisheries impacts in the context of offshore wind. If avoidance was not an absolute, such as with oil and gas leasing, Congress would have established a Fisherman's Contingency Fund similar to that for oil and gas contained in the same law. Because Congress delineated a difference in legal mandates regarding the two types of OSCLA leasing, it created different provisions for each type. Offshore wind leasing was designed to be more constrained than oil and gas leasing. That was not an oversight of Congress. It was deliberate.

BOEM here in its Draft Guidance is simply attempting to ignore its legal mandates under OSCLA regarding offshore wind and create something akin to the oil and gas Fisherman's Contingency Fund. Except because it has no legal authority to do so, it can merely issue these as "guidance" and "recommendations" to developers rather than require it. The entire concept is utterly absurd. BOEM is trying to artificially create something it has no authority to create, because it is not executing the authority it actually has. However, this circles back to the previous sections of this comment letter. BOEM has taken it upon itself to merely become an arm of the developers rather than comply with its own legislative mandates or execute its own regulatory authority.

8. Determining Adequate Reserve Funds for Compensation:

³¹ See [eCFR :: 50 CFR Part 296 -- Fishermen's Contingency Fund](#) and [Fishermen's Contingency Fund Program | NOAA Fisheries](#).

BOEM continues to turn a blind eye to real and calculable impacts on the commercial fishing industry, including shoreside businesses, in deference to what will be the least economic liability for the developer. Nothing has changed with the proposed calculations used by the Draft Guidance.

The Guidance document states that a reasonable definition of revenue exposure is the total ex-vessel value of the fish landed. BOEM “generally expects” that only a portion of the ex-vessel revenue exposure will be lost, and therefore that this represents an “overestimation”-the excess of which is “likely to be sufficient to cover shoreside income loss”. We do not know the basis for BOEM’s expectation. It is not rational in any way and contradicts every piece of information that BOEM has been provided over the years. Having such a general expectation would be akin to generally expecting that if logging were outlawed in the forests of America, but individual loggers themselves were compensated for their losses, somehow every logging company, lumber yard, home improvement store, and construction business relying on that lumber would somehow be also compensated. It flies in the face of basic logic.

BOEM supplements this general expectation with the assertion that “in some localities it may be appropriate to apply a multiplier (previous projects estimated approximately 1-2 percent) to the total revenue exposure to ensure that shoreside income loss is adequately covered.” We do not know what planet BOEM lives on. We are unaware of any industry that operates on 1-2% of its raw material cost. Under this assumption, if Seafreeze were to pay an individual vessel unloading at our facility \$1 per pound for squid, we would be expected to cover all property costs, insurance, machinery maintenance and/or replacement, electric and water costs, freezing costs, packaging costs, ice making, shipping costs, refrigeration and cold storage costs, temporary labor costs, salaries, taxes, financial service costs, inspection fees, compliance costs, and a host of other financial operating costs- without even so much as considering profit-on \$0.01 per pound? Any business operating on this model would be bankrupt in short order. We were so surprised to see this figure mentioned in the document that we asked BOEM during a Draft Guidance webinar if it was a typo. It was not.

BOEM uses the excuse that previously approved COPs used various “tools” to identify a multiplier of 1-2%, which are identified in Appendix A “Data and Methodology for Developing Revenue Exposure Estimates in the Northeast Atlantic”. This merely serves to confirm that BOEM’s COP analysis thus far has been completely inadequate, in fact laughable. Its employed “tools” include the outdated IMPLAN model from 2004, when data from 2020 is available. It is unclear why BOEM does not use or quote the most updated and accurate information but rather relies on nearly 20-year-old data. It is also unclear why BOEM doesn’t investigate publicly available species information on processor pricing, such as Seafreeze’s monthly price sheet³² as compared to average ex-vessel prices which is contained, for example, in Mid Atlantic Fishery Management Council Fishery Performance Reports and Fishery Information documents, all publicly available.³³ The numbers will tell a much different story than a penny on the dollar.

Analysis on economic multipliers must be done on a species-by-species, fishery-by-fishery basis, as discussed both above and below. Not all fisheries are the same. But these types of economic analysis have already been completed for many species through economic studies-

³² See <https://www.seafreezeltd.com/price-sheet> and <https://www.seafreezeltd.com/price-sheet>.

³³ See <https://www.mafmc.org/msb>.

some of which we have previously submitted to BOEM in comments which continue to be ignored- conducted by entities such as the Science Center for Marine Fisheries, an industry/academic partnership under the National Science Foundation.³⁴ These are not back of the envelope calculations. They are National Science Foundation sanctioned research products.

One such research product, “Economic Impacts Associated with the Commercial Fishery for Longfin Squid (*Doryteuthis pealeii*) in the Northeast U.S.”, conducted in association with the Virginia Institute of Marine Science, calculated a total economic output multiplier for longfin squid of 7.64, i.e. every dollar of landings leads to \$7.64 in total economic output.³⁵ Not \$0.01-\$0.02. Due to the high overlap rate of BOEM approved offshore wind leases with this fishery, it is imperative that BOEM incorporate accurate data regarding the longfin squid fishery into its analysis. Below is a chart showing the astronomical difference between BOEM midpoint estimates of shoreside impacts (\$0.015) and the species-by-species shoreside impacts calculated by various Science Center for Marine Fisheries economic studies:³⁶

TABLE 2. COMPARISON OF REGIONAL ECONOMIC IMPACT ESTIMATES FOR SCEMFIS VS. BOEM				
Fishery	Landings Value (\$ Mil.)	Total Economic Output (\$ Mil.)	Total Employment	BOEM Total Output (\$ Mil.)
Summer Flounder	\$26.5	\$201.6	1,688	\$26.9
Scup	\$9.3	\$90.9	2,709	\$9.6
Surf Clam/Ocean Quohaug	\$54.8	\$1,039.0	16,465	\$55.6
Squid	\$31.9	\$243.6	2,539	\$32.3
Menhaden	\$102.4	\$419.3	2,059	\$103.9
Red Grouper	\$14.0	\$201.6	1,840	\$14.2

BOEM states in Appendix A that it expects its own 1-2% ex-vessel value shoreside impacts estimate to “overestimate” revenue impacts due to the assumption that shoreside processors and dealers will simply import product to cover losses. Clearly, BOEM has remained willfully ignorant to the operations of shoreside processors on the East Coast. Most are actual fish docks. The term “processor” in the fishing industry context is derived from Title 21 of the Federal Code of Regulations, Part 123. According to legal definition, “Processing means, with

³⁴ See <https://scemfis.org/>.

³⁵ See Scheld, “Economic Impacts Associated with the Commercial Fishery for Longfin Squid (*Doryteuthis pealeii*) in the Northeast U.S.”, 2020, at https://scemfis.org/wp-content/uploads/2020/03/LFS_EI_Report.pdf, also attached.

³⁶ See Murray, T.J. 2020. [Economic Impacts of Reduced Uncertainty Associated with Fishery Management Actions with Summer Flounder](#)

Murray, T.J. 2016. [Economic Activity Associated with SCEMFIS Supported Fishery Products](#) and [Scup markup tables](#)

Murray, T.J. 2016. Economic Activity Associated with SCEMFIS Supported Fisheries Products: Atlantic Surf clams & Ocean Quahog.

Scheld, A. 2020. [Economic Impacts Associated with the Commercial Fishery for Longfin Squid \(*Doryteuthis pealeii*\) in the Northeast U.S.](#), Virginia Institute of Marine Science. March 2020

Murray, T. J. 2022. [Gulf of Mexico Menhaden Economic Impact and Management Uncertainty](#).

Murray, T. J. 2021 Economic Impacts Associated with Harvest and Marketing of Red Grouper.

See also Hodges, Murray and Scheld, Memo “Comments on “Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585,” Bureau of Ocean Energy Management, US Department of the Interior”, August 12, 2022, attached.

respect to fishery products: Handling, storing, preparing, heading, eviscerating, shucking, freezing, changing into different market forms, manufacturing, preserving, packing, labeling, dockside unloading, or holding.” The key word here is “or”. Engaging in any of these activities legally makes an entity a “processor” and requires it to be compliant with the FDA regulations concerning Hazard Analysis Critical Control Point (HACCP).

Per this regulation, not all shoreside processors create a finished product that can be simply supplemented with imports. All that it required to legally be deemed a processor and required to create a HACCP plan and undergo HACCP/FDA inspection is to unload a fishing vessel, thereby “dockside unloading” and “handling” whole fish. Many shoreside “processors” are businesses that unload fish, package it, temporarily store it, and sell it to a secondary wholesaler. They do not import. Some businesses do use the unloaded product to prepare a finished, shelf ready product. But this is not always the case. It is certainly not the case for Seafreeze.

For example, our Seafreeze Shoreside facility is located in Narragansett, in the port of Point Judith/Galilee.³⁷ It is a waterfront facility with several docks for unloading product directly off commercial fishing vessels. The only product that we purchase is that unloaded from the vessels at our docks, purchased directly from the vessels. Some species, such as squid which is our primary product by both volume and revenue, is packed and frozen in the facility plate and/or blast freezers. It is then sold. Some species are packed and frozen in this manner, some species are boxed fresh and shipped to fresh markets elsewhere. All product is whole round, and the facility is designed to unload vessels, package and/or freeze whole product, which is then sold on to other secondary and tertiary dealers/wholesalers/processors. Seafreeze Shoreside also produces ice, which is sold to fishing vessels which ice their product. Our entire business depends on and revolves around the commercial vessels unloading at our docks- 100% of our product and income comes directly from these vessels. If they do not have product, we do not have product. If they lose income, we lose income. It is that simple. We do not import. That is not our business model. If vessels lose access to product, we experience direct loss of product into our facility that cannot be supplemented by imports. If vessels unloading at our facility lose access to fishing grounds due to offshore wind and become unprofitable, Seafreeze Shoreside becomes unprofitable. If the vessels go bankrupt due to wind farm impacts, Seafreeze Shoreside goes bankrupt.

Seafreeze Ltd., our facility in North Kingstown, similarly was built to unload our two company freezer vessels.³⁸ It was purpose built to be the unloading dock and cold storage for those two vessels. It was not built to import; it relies on product from those vessels. If those two vessels experience impacts, Seafreeze Ltd. experiences impacts. For Seafreeze Ltd., over 95% of what is sold is our own company product harvested by our two freezer vessels and/or purchased directly from Seafreeze Shoreside. Both of our “processors” are federally licensed dealers, meaning that they are legally approved by NOAA to unload fishing vessels. That is our business plan- unloading fishing vessels. Processors further downstream, those creating a final shelf-ready product, or dealing with finished products, may have the option to import. But facilities literally designed to be docks for commercial fishing vessels that have a business model that revolves around unloading those vessels do not. BOEM’s assertion that shoreside businesses can

³⁷ See <https://www.seafreezeshoreside.com/>.

³⁸ See <https://www.seafreezeltd.com/>.

just import to make up for offshore wind-related losses is incorrect, arrogant, and ignores years of interaction with and input from Seafreeze representatives as well as representatives from other fisheries shoreside businesses. BOEM is again deliberately throwing shoreside business impacts under the bus with the Draft Guidance document, as it has with all COP reviews to date, despite our and other's comments. We can only assume that this is due to BOEM's pattern of reticence to require any substantial requirements of developers that would reduce developer buildout and/or profits.

One aspect of compensation that BOEM has never mentioned is the impact to the value of our businesses themselves, i.e., physical capital exposure. The value of physical capital is based off of the expectation of future profits. If profit margins fall even slightly across a fishery due to offshore wind, taking into account the lifespan of capital stock and discount rates, the losses in value of physical capital for both vessels and shoreside businesses combined could imply tens of millions of dollars in loss of value of physical capital across that fishery.³⁹ Each one of our Seafreeze facilities was purpose built and designed, equipped, and located specifically to offload commercial fishing vessels. We have invested tens of millions of dollars into these facilities. The physical capital in our facilities- commercial docks and fish pumps, dock conveyors, ice makers and refrigeration system/piping, built-in freezers, and other equipment is highly specialized and not able to be easily converted to do something else. Therefore, should offshore wind reduce our profitability, it will also devalue our physical capital assets. No buyer will be interested in purchasing a fish plant if there is no commercial fishing industry. The same with commercial fishing vessels, nets, doors, trawl wire, door and net sensors and associated electronics, etc. If commercial fishing becomes unprofitable due to offshore wind displacement, no buyer will be interested in purchasing commercial fishing vessels or gear. We will address this specific to fishing vessels further below.

BOEM's statement that previously approved BOEM projects considered shoreside impacts businesses is not factual. During the Rhode Island Fisherman's Advisory Board closed negotiations with Vineyard Wind regarding a compensation package for the Rhode Island fishing industry for that project, not one shoreside processor had a seat at the table. The Fisherman's Advisory Board, none of whom owned or operated shoreside infrastructure or had any understanding of what it costs to operate such a business, had no representation from the shoreside sector. We commented to BOEM several times about this issue, but our comments were ignored.⁴⁰ Because of this glaring omission, the Rhode Island Coastal Resources Management Council subsequently revised the state's Coastal Zone Management regulations to add a processor's seat to the Fisherman's Advisory Board.⁴¹ Pretending that impacts to shoreside businesses have always been considered is in fact quite insulting, as we have been raising this issue to BOEM for years with no acknowledgement.

³⁹ See Hodges, Murray and Scheld, Memo "Comments on "Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585," Bureau of Ocean Energy Management, US Department of the Interior", August 12, 2022, attached.

⁴⁰ See comments submitted to BOEM on the Vineyard Wind DEIS on February 26, 2019 here: <https://www.regulations.gov/comment/BOEM-2018-0069-0163> and here: <https://www.regulations.gov/comment/BOEM-2018-0069-0162>, documents attached.

⁴¹ See http://www.crmc.ri.gov/samp_ocean/20191016_NOAA_RPC_OceanSAMP_Filing.pdf.

BOEM's primary source for commercial fishing revenue exposure is its 2017 report "Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fisheries in the U.S. Atlantic" by Kirkpatrick et. al.⁴² This method of ex-vessel revenue exposure is outdated, been superseded by more recent and accurate methodology, and has been proven inaccurate for estimating activity- and therefore revenue- for mobile bottom tending gear fisheries such as the squid fishery. Not all methodology is suited for all fisheries; operational differences can create huge discrepancies between the outcomes of methodology. The Kirkpatrick method, which uses a series of concentric rings around a single Vessel Trip Report coordinate point to estimate revenue for the trip being reported, does not work for mobile fisheries. It works well for static gear fisheries, but it does not work for mobile fisheries because they are just that- mobile. They do not stay in one spot.

We have already demonstrated this to BOEM in the past regarding the Equinor Empire Wind lease area. BOEM is fully aware that this revenue exposure method has been proven as flawed for the mobile bottom tending gear squid fishery. BOEM used the Kirkpatrick method and report in its initial identification of the NY Call Area and in its EA of the NY WEA lease sale, which became the now Empire Wind lease site.⁴³ We have attached our public comment to BOEM on that Call, as well as our comment on the EA. The NY EA specifically mentions the Kirkpatrick et al work and methodology in its analysis and resulting conclusions.⁴⁴ Because the Kirkpatrick method resulted in such a skewed representation of actual fisheries impacts, and BOEM's refusal to acknowledge confidential business information submitted from over 20 squid fishing vessels as well as newer and more accurate data it already had obtained from NMFS, it was necessary to get the state of Rhode Island, the Rhode Island Congressional delegation, as well as NMFS, involved to acknowledge the real impacts to the commercial squid fishery as a result of that lease. We have also attached our 2021 comments on the Equinor NOI that details the history of that entire debacle, which ended with Rhode Island being allocated a seat on the NY Task Force, recommendations to BOEM from both NMFS and the Rhode Island Senate Delegation and NMFS Regional Administrator suggesting re-siting of the lease area to deconflict with the squid fishery (which BOEM ignored), and with the pursuit of legal action against BOEM in the *Fisheries Survival Fund et al v Jewell* lawsuit. It is notable that Seafreeze Shoreside, the Town of Narragansett, RI- where Seafreeze Shoreside is located- and the Narragansett Chamber of Commerce were all plaintiffs to that lawsuit due to the significant impacts on the squid fishery from the Equinor lease. The fishery and associated dependent ports that the Kirkpatrick et. al. method said didn't exist in the NY WEA.

The Kirkpatrick et al method used in the Equinor lease siting as well as the Draft Guidance document listed commercial fishing ports with the most exposed revenue to the lease as being NY, CT, NJ, VA and MA. No mention of any Rhode Island port, although Point Judith/Narragansett, RI, is the single most affected port by the lease. Rhode Island consistently lands more longfin squid than all other East Coast states combined, and the Equinor lease it sited on top of a major squid fishing ground.⁴⁵ The information provided by BOEM based off the

⁴² Kirkpatrick et. al., "Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fisheries in the U.S. Atlantic", OCS Study, BOEM 2017-012 at <https://espis.boem.gov/final%20reports/5580.pdf>.

⁴³ See BOEM's EA for the NY WEA at <https://www.boem.gov/NY-Public-EA-June-2016/>, p. 4-148.

⁴⁴ Ibid.

⁴⁵ See http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/RIDEM_VMS_Report_2017.pdf, p. 18 and Longfin Squid Fishery Information Documents available at <https://www.mafmc.org/msb>.

Kirkpatrick method was so inaccurate that the RI DEM Division of Marine Fisheries was forced to become involved early on to represent the interests of the state. A 2016 publication of the RI DEM Division of Marine Fisheries entitled “Rhode Island Stakeholder Concerns Regarding the New York Wind Energy Area” contrasted the commercial fishing activity according to the Kirkpatrick method here:⁴⁶

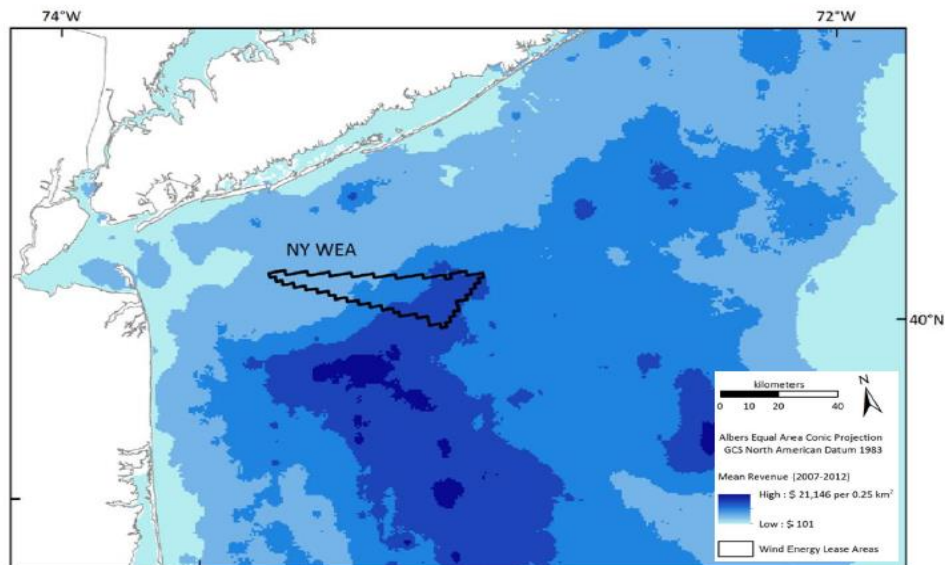


Figure 2. Commercial fishing activity from ports most exposed to the NY WEA, 2007-2012. Figure provided by BOEM and NOAA Fisheries. Revenue-intensity raster built using Vessel Trip Reports.



Rhode Island Department of Environmental Management,
Division of Fish and Wildlife, Marine Fisheries Section
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With actual Vessel Monitoring System data depicting commercial squid fishing activity here:

⁴⁶ RI DEM, Division of Fish and Wildlife, Marine Fisheries Section, “Rhode Island Stakeholder Concerns Regarding the New York Wind Energy Area”, 2016.

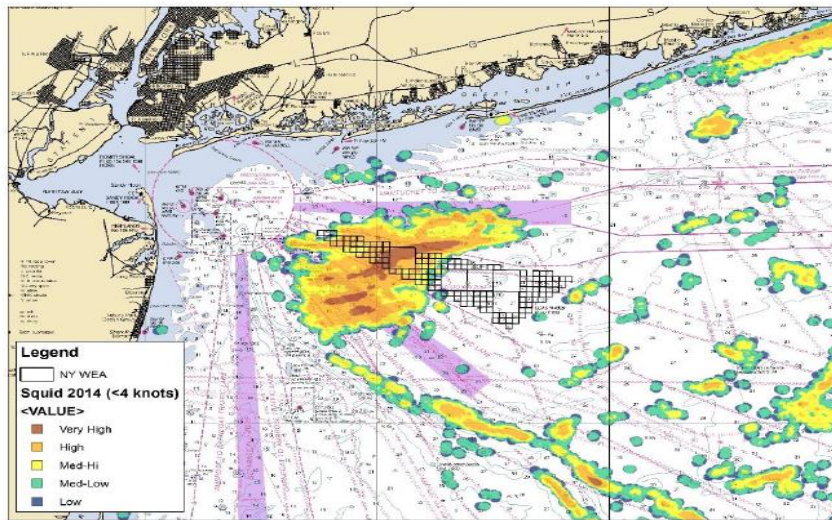


Figure 3. Vessel monitoring system data for the squid fishing fleet in 2014 (Data Source: Northeast Regional Ocean Council)



Rhode Island Department of Environmental Management,
Division of Fish and Wildlife, Marine Fisheries Section
[32]



Activity equals revenue, plain and simple. Utilizing a method for revenue exposure for a mobile gear fishery that bases its entire methodology from a single lat/long coordinate is not only counterintuitive but results in skewed and inaccurate outcomes. We have attached a 2017 presentation from RI DEM to BOEM on its methodology for calculating fisheries landings and revenue in offshore wind leases using Vessel Monitoring System Data rather than data based off a single coordinate. Vessel Monitoring Systems track vessel movement throughout its trip and captures much more accurately the location of vessel activity.⁴⁷

Although BOEM includes references to the RI DEM methodology in Appendix A of the Draft Guidance, it has consistently in practice refused to value fisheries using this method. It consistently gives the methodology a quick reference in passing, but relies on whatever methodology shows lesser financial impact, in deference to developers. We argued to BOEM regarding the Vineyard Wind project that BOEM's estimate that the total revenue exposure to the longfin squid fishery from all cumulative projects, including the Vineyard project itself, at only \$1.16 million from 2020-2030.⁴⁸ However, the RI DEM method valued the Vineyard Wind project area itself for Rhode Island fisheries alone at up to \$35,611,702.85 for a 30- year period, with longfin squid alone accounting for \$20,968,100.76 of this value.⁴⁹ The numbers do not even come close.

⁴⁷ Julia Livermore, "Vessel monitoring system analysis of landings coming from the NY WEA", RI DEM Presentation to BOEM, January 31, 2017.

⁴⁸ See Vineyard Wind SEIS, Appendix B, Table 3.11-3, p. B-78.

⁴⁹ RI DEM, "Rhode Island Fishing Value in the Vineyard Wind Construction and Operations Area", January 14, 2019 at http://www.dem.ri.gov/programs/bnatres/marine/pdf/RIDEM_VWValue.pdf.

Notably, the RI DEM analysis states, “It is important to re-emphasize that the values presented do not include any shoreside impacts (including crew, fuel, gear, ice, processing, or packaging costs). There are entire businesses that provide these services that may also be affected, and many of these services occur in the major RI ports, which will also see impacts from the offshore wind energy area if fishing is precluded from occurring in this area.”⁵⁰ Using the economic multiplier from the SCEMFIS National Science Foundation sanctioned longfin squid study, the total commercial fishing revenue derived from the squid fishery exposed by just the Vineyard Wind project is \$160,196,289.80 for Rhode Island businesses alone. BOEM’s approved compensation for that project does not even come close to this figure. This further serves to expose BOEM’s standard course of action in downplaying commercial fishing impacts altogether, a course of action perpetuated by the Draft Guidance document “recommendations”.

The only suitable method for assessing revenue exposure of mobile bottom tending gear fisheries such as the longfin squid fishery is by using VMS analysis. The RI DEM method for generating impacts using VMS is significantly more accurate for mobile fisheries than the Kirkpatrick method. BOEM cannot ignore this or pretend the NY WEA/Equinor lease debacle never occurred. It did occur, and BOEM was forced to acknowledge that Rhode Island was in fact a highly impacted state as a result of that lease, contrary to the Kirkpatrick et al generated “data” for the mobile gear squid fishery. The rule of thumb for all modeling is “garbage in, garbage out.” A method that uses one point to generate estimates of a vessel that is constantly moving is clearly not as accurate as a method that uses many points that follow the vessel activity. BOEM cannot continue to assert to stakeholder that it uses “all methods” when deriving impact estimates. It has not in the past. This needs to change in all BOEM project reviews, and the correct tool should be used for the job. BOEM then needs to assess economic multipliers on a fishery by fishery basis and begin utilizing the best available data immediately. This does not include a 1-2% multiplier.

Additional impacts to vessels themselves have gone unaddressed in the Draft Guidance. For example, BOEM does not address the potential for certain vessels and/or certain fisheries to go bankrupt due to loss of access to fishable area, despite this being a very real potential scenario as BOEM continues to lease and approve projects on currently fishable bottom. For example, BOEM has already acknowledged that that bottom trawl fisheries such as the squid trawl fishery will not be able to operate inside offshore wind farms, “some fisheries- like the squid trawl fishery- may not be able to safely operate and harvest the resource the resource in the WDA using status quo fishing techniques. In this situation, a large portion of annual income for vessels may be inaccessible during operations, resulting in major impacts on individual vessel owners”⁵¹ and “it is likely that they entire...area will be abandoned by commercial fisheries due to difficulties with navigation.”⁵² As the cumulative impacts of projects continue to reduce the available fishing area to bottom trawl fisheries such as the squid fishery, the fishery itself will continue to become less profitable.

⁵⁰ RI DEM, “Rhode Island Fishing Value in the Vineyard Wind Construction and Operations Area”, January 14, 2019 at http://www.dem.ri.gov/programs/bnatres/marine/pdf/RIDEM_VWValue.pdf.

⁵¹ See Vineyard Wind DEIS at [Vineyard Wind Offshore Wind Energy Project Draft EIS \(boem.gov\)](http://www.boem.gov/Vineyard-Wind-Offshore-Wind-Energy-Project-Draft-EIS), p. 3-184.

⁵² See Vineyard Wind ROD at [Record of Decision for Vineyard Wind 1 Signed \(boem.gov\)](http://www.boem.gov/Vineyard-Wind-Record-of-Decision), p. 39.

The margins of profitability for vessels are not astronomical. For example, using confidential data provided by the commercial fishing industry, economists at the NOAA Northeast Fisheries Science Center conducted analysis on commercial fishing vessel economic and revenue impacts as a part of the New England Fishery Management Council's Industry Funded Monitoring Omnibus Amendment. That analysis calculated for mobile bottom tending gear vessels such as squid vessels participating seasonally in the herring and mackerel fisheries, that the return to owner (defined as gross revenue less variable, crew share, repair/maintenance and fixed costs) at 7% of ex-vessel value.⁵³ If that margin shrinks smaller due to loss of fishable area and therefore harvest opportunity, it may become too unprofitable to execute the fishery, or not worth the effort or investment. The Draft Guidance does not provide for compensation for the loss of a vessel and/or permit due to unprofitability caused by offshore wind construction.

The asset value of the vessel and/or permit cannot go unnoticed or unvalued. Most fishermen do not have a pension or retirement plan; the resale value of the permit/vessel is that retirement plan. The value of the permit/vessel is also the physical capital invested in by corporate ownership. These vessels are purpose built and not in demand in other sectors. A commercial fishing permit, currently holding significant monetary value, is worthless if the fishery becomes inoperable due to offshore wind. If the vessels themselves become unprofitable, BOEM does not contain any provision in this document for compensation for the devaluation of that investment. This could have disastrous financial consequences for the commercial fishing industry.

9. Duration of Compensatory Mitigation Period:

In this section, BOEM recommends only 5 years of compensation for lost revenue, with compensation declining from 100% revenue exposure to 50% revenue exposure in the 5th year. After 5 years, BOEM "assumed" that "there is adjustment period for fisheries post construction" so further compensation is not warranted as standard. It is again unclear on what information BOEM bases this assumption, as with all other BOEM assumptions. As cumulative impacts accumulate, there will be more impact, not less. Cumulative impacts are just that- cumulative. They grow over time; they do not decrease. It is absolutely astounding that BOEM would even suggest that cumulative impacts decrease over time. It is the opposite of reality.

As detailed throughout this comment letter, it is established by UK experience and BOEM's own admission that for that offshore wind farms will become areas lost to fishing for bottom trawl vessels, such as those owned and operated by Seafreeze. The more projects that are approved on trawl fishery bottom, the more the opportunity and harvest that will be lost to our vessels, and in turn, our shoreside facilities. We reiterate our comments in point 6. The UK experience, combined with current and expected future offshore wind buildout and fisheries regulations, estimates a total loss of bottom trawl fisheries in the next 30 years. As the offshore wind farms planned in the US purport to have an expected 30 year lifespan, it is likely that we can expect the same here should development move forward as planned. Therefore, any and all

⁵³ See Industry Funded Monitoring Amendment, Table 122 "Summary of Total Trip Costs for Herring and Mackerel Vessels in 2014", Average Percent of 2014 Gross Revenue for Squid Vessels, p. 375, at https://s3.us-east-1.amazonaws.com/nefmc.org/2_IndustryFundedMonitoringAmendmentdatedSept16.pdf.

compensation for lost revenue, as well as lost or devalued capital, and cumulative impact analysis, must endure for the life of the project(s) and into decommissioning.

The Draft is also silent on whether compensation would follow the permit/vessel through the life of the project. This is also imperative. Every permit is unique and tracked by NMFS through sale, transfer, etc. There are no new permits issued; very few fisheries are “open access”. Most fisheries, particularly lucrative fisheries such as squid, are all limited access. No new permits are created, and all permits are monitored for landings activity and any vessel transfers or transfers in ownership. Any compensation required by the life of a wind farm project must follow the permit for the life of the project. The physical capital loss compensation must follow the vessel for the life of the project. Vessels are documented and tracked by the U.S. Coast Guard. Assigning compensation to both the permit and the vessel for the life of the project, and into decommissioning, is absolutely necessary for adequate compensation. All damages from the offshore wind industry to the commercial fishing industry must be accounted for.

An utterly ridiculous concept put forward by Appendix A of the Draft Guidance is that in order for “forecasting revenue exposure”, “the lessee should consider information such as stock assessments, fisheries management actions, market conditions, and other factors that may influence revenue and landings over the period of the data analysis”. Does BOEM now expect the developers to be fisheries scientists? Or fisheries market experts? Offshore wind developers have no expertise in the U.S. stock assessment process or fisheries modeling. They also cannot predict what fishery management action may occur 10 years from now. That, according to Congress, is at the sole discretion of the Regional Fishery Management Councils. Does BOEM expect European offshore wind developers to magically become fisheries scientists and U.S. fisheries management experts overnight and consult a crystal ball of “future revenue exposure and impacts”? NMFS is a federal agency responsible for management, oversight and analysis of the nation’s fisheries. NMFS is a cooperating agency with BOEM- why would BOEM not consult NMFS for information regarding revenue exposure? State fisheries agencies such as RI DEM also collect and analyze this type of information. Why would BOEM leave that data collection and associated assumptions to the developer?

This ludicrous proposal circles back again to our previous comments about BOEM leaving federal data collection, analysis and interpretation of this information up to the developer and the developer’s COP, for use in BOEM’s own legal compliance with federal legislative mandates. This is both violative of federal law and wholly unacceptable. Once again, BOEM is acting arbitrarily, capriciously, and otherwise not in accordance with law. It is yet another attempt to hand the developers the key to the castle. A developer will most certainly use whatever data it can find to make an assumption that fisheries landings are expected to decline and therefore hold themselves less liable for damages to the fishing industry. This is in their own best financial interest. BOEM does not question or groundtruth developer generated data, as mentioned in previous sections of this comment. This is another procedural and pervasive issue in the BOEM process that must change if BOEM is to live up to its requirements as a federal regulatory agency.

Allowing developers to generate the data for which they will be held financially liable is not likely to result in an outcome unfavorable to developers. According to Rhode Island state law, a developer negotiating a compensation agreement with the RI CRMC and Fisherman’s

Advisory Board (FAB) shall bear the costs associated with that negotiation, including technical and financial analysis.⁵⁴ The developer can be required to pay for an independent economic analysis conducted by an independent entity on behalf of the FAB. In the case of the Vineyard Wind compensation deal that BOEM approved as appropriate mitigation for the Rhode Island fishing industry,⁵⁵ the FAB/CRMC engaged a Professor of Environmental and Natural Resource Economics named Dr. Sproul from the University of Rhode Island to conduct that independent economic analysis. At the same time, Vineyard Wind engaged the King report as the developer's economic analysis; this report is quoted by BOEM in Appendix A of the Draft Guidance.⁵⁶ The economic report from Dr. Sproul was used in the closed-door negotiation meetings, but never finalized into a final document for CRMC.⁵⁷ The public has never been afforded a copy, draft or otherwise, of Dr. Sproul's report. However, the original Vineyard Wind Fisheries Mitigation Proposal listed as a contingency "The Sproul report or any drafts of that report prepared in response to the January 15, 2019 Dennis King report, not being made public by the FAB".⁵⁸

Leaving data generation, collection and analysis to the developer is not likely to create a fair and equitable outcome for the commercial fishing industry. BOEM cannot continue down the road of being an absentee regulatory agency that defers its responsibilities to the entity it is supposed to be regulating.

Conclusion: The Draft Guidance as written is riddled with inaccurate assumptions, agency abdication of authority, and gross procedural inadequacies. However, the real issue in question is BOEM's procedure. BOEM cannot defer compliance with its legal obligations to data collected and analyzed by the developer. It is clear from BOEM's new NEPA standardization that BOEM has automatically given developers a clean slate in what alternatives will be analyzed for NEPA compliance, eliminating any alternatives that can prevent interference with competing reasonable uses of the ocean and allow it to comply with existing CEQ regulations involving not taking actions or certain parts of an action. All recommendations in the Draft Guidance allow the developer to drive the data, which in turn allows the developer to drive the process. Rather than provide an objective benchmark by which to analyze and compensate for fisheries impacts, the Draft Guidance merely underlines already-apparent conclusions regarding regulatory capture. Rather than making decisions in the public interest, BOEM's proposal would allow it to make decisions in the interests of wind energy developers, whatever the cost to the public. Neither OSLA nor NEPA authorize such an approach. Accordingly, the Draft Guidance should be rescinded and rewritten in accordance with the suggestions made in this comment letter, utilizing the attached resources, and BOEM should provide the public with another opportunity for comment, next time on a proposal that is at least arguably consistent with BOEM's statutory duties.

Thank you for the opportunity to comment.

⁵⁴ See 605-RICR-20-05-5.3.2 (D) at <https://rules.sos.ri.gov/regulations/Part/650-20-05-5>.

⁵⁵ See Vineyard Wind ROD, Mitigation Measure 75, p. 92, at <https://www.boem.gov/renewable-energy/state-activities/final-record-decision-vineyard-wind-1>.

⁵⁶ King, et. al., "Economic Exposure of Rhode Island Commercial Fisheries to the Vineyard Wind Project", 2019.

⁵⁷ Personal correspondence with CRMC, 2/22/2019.

⁵⁸ See attached document.

Sincerely,
Meghan Lapp
Fisheries Liaison
Seafreeze Shoreside and Seafreeze Ltd.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

February 24, 2023

Ms. Jessica Stromberg
Acting Chief, Environmental Branch for Renewable Energy
Bureau of Ocean Energy Management
45600 Woodland Road, VAM-OREP
Sterling, Virginia 20166-4281

Dear Ms. Stromberg:

We reviewed the final essential fish habitat (EFH) assessment provided on November 16, 2022, for the proposed 1,100-megawatt Ocean Wind offshore wind energy project. The project includes the construction, operation, maintenance, and decommissioning of a commercial scale offshore wind energy facility, known as the Ocean Wind Offshore Wind Farm (OWWF), within Lease Area OCS-A-0498, located 15 miles southeast of Atlantic City, New Jersey (NJ) within the New Jersey Wind Energy Area. The OWWF project includes the proposed construction of up to 98 wind turbine generators (WTGs), three offshore substations (OSS), scour protection for foundations and cables, up to 190 linear miles of inter-array and 19 linear miles of OSS interconnecting submarine cables. The project also includes the construction and installation of the approximately 143-linear mile Oyster Creek Export Cable (OCEC) and 32-linear mile BL England Export Cable (BLEEC) using alternating current to export energy from the OSS of the OWWF to two mainland electric grid substations in Marmora and Ocean Townships, NJ.

The final EFH assessment was provided in response to our requests for additional information (RAI) on April 11 and September 8, 2022, which were based on the draft EFH assessment provided to us on February 11, 2022, and our October 5, 2022, RAI based on new information provided by the developer on October 4, 2022. In addition to the final EFH assessment, we reviewed the Benthic Habitat Monitoring Plan, final Environmental Impact Statements (FEIS) for cooperating agency and public review, and the Construction and Operation plan (COP).

BOEM is the lead federal agency for offshore wind development activities and, as such, is responsible for consulting with us under the Magnuson Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), and the Endangered Species Act (ESA). However, we also recognize the U.S. Army Corps of Engineers' (USACE) jurisdiction and responsibilities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. We understand that our comments and recommendations related to activities proposed in nearshore waters (inside 3 miles), will be considered by the USACE as part of their regulatory review, including their obligation to ensure that the proposed actions adhere to the Clean Water Act Section 404 (b)(1) Guidelines. Further, it is our understanding that the USACE will use BOEM's EFH assessment to fulfill their regulatory responsibilities and that any appropriate EFH and FWCA recommendations we make to BOEM as part of the MSA and FWCA consultations will be considered for incorporation as special conditions to any Department of the Army (DA) permit issued by the USACE for the proposed activity and that it



will be USACE's responsibility to respond to any EFH conservation recommendations issued for actions under their jurisdiction.

EFH Determination

The OWWF project is proposed in an area of high relief sand ridge and trough complexes and the Barnegat Bay, two sensitive ecological areas that provide valuable habitat for a number of federally managed fish species, their prey, and other marine resources. The project area is designated EFH for sensitive life history stages of summer and winter flounder, shellfish species (e.g., Atlantic surfclam), yellowtail flounder, Atlantic mackerel, red hake, silver hake, bluefish, Atlantic croaker, longfin squid, scup, Atlantic herring, little skate, spiny dogfish, and numerous others. The area of high-relief sand ridge and trough complexes is defined by high habitat heterogeneity and complexity on various spatial scales (from sub-meter to many kilometers) while the Barnegat Bay hosts numerous sensitive habitats that provide important ecological functions and support countless estuarine-dependent species in the region; it is also one of 28 designated estuaries of national importance.

Based on the project information presented in the EFH assessment, it is our determination that the proposed project would result in substantial adverse impacts to managed species designated EFH. Further, while we deemed the EFH assessment complete for the purposes of initiating consultation, the provided document does not fully consider or evaluate the adverse impacts to EFH, or the sensitive and vulnerable resources in the project area that are likely to occur from the proposed project activities and development. Our review of the EFH assessment and the development of site-specific EFH conservation recommendations was complicated by the continued use of the "maximum impact scenario" in the EFH assessment. As we have discussed with your staff on a number of occasions, the EFH assessment and your analysis of effects should be based upon the activities expected to occur and the likely means and methods to be used, not the most impactful ones. The use of the maximum impact scenario makes it difficult to develop site-specific, targeted, clear, and enforceable EFH conservation recommendations because the recommendations need to address multiple activities and construction methods that may not be used. This can lead to overly complex and precautionary EFH conservation recommendations that may not be necessary.

Due to the substantial uncertainties regarding the impacts to oceanographic processes (including potential impacts to the Mid-Atlantic Cold Pool), hydrodynamics, primary and secondary productivity, and predator-prey relationships that may result from this project and others cumulatively across the Mid-Atlantic, all of the direct, indirect, individual, cumulative and synergistic effects of the proposed project on EFH, federally managed species and other NOAA trust resources cannot be fully identified, understood, or evaluated. Further, the absence of data on these and other issues should not be interpreted as a lack of adverse effects. We note that in the EFH assessment there is a tendency to minimize or discount potential adverse effects when sufficient information is not available for a full analysis or when the data on potential effects is lacking. This is contrary to the precautionary principles that should be followed to protect ecologically important habitats and our nation's fisheries. As a result, we have significant concerns with the environmental implications and precedent-setting nature of developing ecologically sensitive areas without a full and reasonable evaluation of adverse impacts or measures to avoid and minimize adverse impacts to high relief sand ridge and trough complexes,

Barnegat Bay and the species that rely on these important habitat areas. The scientific basis for our determination is provided in the enclosed attachment.

EFH Conservation Recommendations

The EFH conservation recommendations (CRs) provided below are based upon the current best available science and project information provided to us in the documents referenced above and during numerous meetings with your staff and the developer. However, the full scope of the ecological consequences and adverse effects on EFH and other NOAA trust resources from the construction and operation of the proposed OWWF remains unknown due to a number of factors such as the lack of information on impacts to ocean hydrodynamics and the long-term changes to shellfish habitat and sand ridges and troughs and the ecological implications of these changes. In some instances, the state of knowledge is not sufficient to predict and analyze the full suite of direct, indirect, individual and synergistic effects of the proposed actions, particularly the long-term effects on ecosystem functions and fisheries. As a result, these EFH CRs focus on actions that can be taken to avoid and minimize known or reasonably foreseeable adverse impacts to EFH where they can be determined. We recognize that other adverse effects are likely, but there is insufficient information available on the nature and scope of the effects for us to issue EFH CRs or there are no EFH CRs we can offer that would avoid, minimize or offset those adverse effects.

Pursuant to Section 305(b)(4)(A) of the MSA, we recommend that BOEM and the USACE adopt the following EFH conservation recommendations in accordance with your respective authorities.

EFH Conservation Recommendations for Activities within the OCS - BOEM

These EFH conservation recommendations focus on activities located in the OCS where BOEM has primary jurisdiction. However, we do recognize that the USACE also has jurisdiction in the OCS under Section 10 of the River and Harbors Act.

Wind Turbine Generator (WTG) and Cable Removal and Relocation (Micrositing) Recommendations

1. Avoid installing WTGs in high relief sand ridge and trough complex areas and areas [on small to medium spatial scales] of high habitat heterogeneity (diversity of structural elements, including bathymetric features) and complexity. Specifically, the following eight (8) WTGs should be removed:
 - a. **A06; B07; A07; A09; B09; C09; D09**, which are included in the Sand Ridge and Trough Avoidance Alternative (D) area;
 - b. **D10**, which was not included in the original 15 potential WTGs for removal, but meets the intent and purpose of the alternative, as it is located in the broad sand ridge and trough complex area (east portion of the lease area).
 - i. Should D10 not be removed, it should be shifted (microsited) the maximum allowable distance¹ west-southwest to avoid the habitats described above.

¹ It is our understanding that the maximum distance for micrositing is 400 feet.

2. Microsite WTGs and interarray and export cables to avoid high relief sand ridge and trough complex area and/or areas of high habitat heterogeneity (diversity of structural elements, including bathymetric features) and complexity. Specifically, the following WTG and inter-array should be micrositied:
 - a. B08 should be shifted the maximum allowable distance east or east-northeast.
 - b. E07 should be shifted north or northeast.
 - c. F07 should be shifted the maximum allowable distance south.
 - d. G09 should be shifted the maximum allowable distance north or northwest.
 - e. G03 should be shifted the maximum allowable distance south.
 - f. J03 should be shifted the maximum allowable distance north-northeast.
 - g. D02 should be shifted south to fulfill the goals mentioned above and to minimize impacts to the New Jersey Prime Fishing Ground known as “Triple Lumps.”
 - h. B06 should be shifted east or east-southeast and B05 should be shifted east or east-northeast to fulfill the goals mentioned above and to minimize impacts to the N.J. Prime Fishing Ground known as “Atlantic City Bluefish Lump.”
 - i. F01 should be shifted the maximum allowable distance south or southeast to fulfill the goals mentioned above and to minimize impacts to the N.J. Prime Fishing Ground known as “The Ham.”
 - j. The inter-array cable connecting B06 to B05 should be re-routed to avoid intersection/overlap with “Atlantic City Bluefish Lump.”
 - k. The inter-array cable connecting D10 to substation ZO1 should be re-routed to fulfill the goals mentioned above, including benthic features found in the seafloor disturbance footprint area of D09.
 - l. The inter-array cable connecting F09 to F08 should be re-routed to fulfill the goals mentioned above; the cable should avoid areas of complex habitat (“NOAA Complexity Category” displayed on various maps/online viewers). When avoidance is not feasible, the cable should cross these areas perpendicularly and at the narrowest point (s).
 - m. The inter-array cable connecting F07 to F06 should be re-routed first west then east (in an arc) of the current route to avoid bathymetric features and areas of high rugosity/bottom heterogeneity that occur in the proposed west-northwest linear route. The cable should avoid areas of complex habitat (“NOAA Complexity Category”). When avoidance is not feasible, the cable should cross these areas perpendicularly and at the narrowest point(s).
 - n. The inter-array cable connecting G09 to G08 should be re-routed to fulfill the goals mentioned above; the cable should avoid areas of complex habitat (“NOAA Complexity Category”). When avoidance is not feasible, the cable should cross these areas perpendicularly and at the narrowest point(s).
 - o. The inter-array cable connection J03 to I03 should be re-routed to fulfill the goals mentioned above; the cable should avoid areas of complex habitat (“NOAA Complexity Category”). When avoidance is not feasible, the cable should cross these areas perpendicularly and at the narrowest point(s).
3. For cables not mentioned above (in #2), an inter-array and export cable micrositing plan should be developed to avoid long-term to permanent adverse impacts to complex habitats and benthic features within the lease area. Cables should be micrositied around all

identified large boulders/habitat elements (i.e., ≥ 0.5 m in diameter) and into low multibeam backscatter return areas without benthic features (i.e., sand ripples, waves).

- a. At a minimum, the micrositing plan should include: 1) depictions of the microsites cables (i.e., include a figure depicting large boulder locations, multibeam backscatter returns, and the proposed microsites cable); 2) information describing how the microsites locations were selected (i.e., what information other than multibeam backscatter and boulder locations was used to determine the cable path); and 3) for any cables that are identified to be infeasible to be fully microsites around large boulders and within low multibeam backscatter areas, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided.
- b. The micrositing plan should be submitted for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water site-preparation activities. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.

Habitat Alteration Minimization Recommendations

4. In order to minimize permanent adverse impacts from the elimination/conversion of existing habitats from scour protection, the project should:
 - a. Avoid and minimize the use of scour protection by fully burying cables (this can be done by siting cables in appropriate substrates) and using the minimum amount of scour protection to accomplish the purpose/intent of the scour protection;
 - b. Use natural, rounded stone of consistent grain size in the entirety of the sand ridge and trough complex area and any areas of complex habitat;
 - c. Avoid the use/placement of engineered stone (e.g., riprap; cut, crushed, or graded stone; etc.) or concrete mattresses within complex habitats or the sand ridge and trough complex area. If the use of engineered stone or concrete mattresses is required within these areas, the impact should be mitigated through the addition of a natural, rounded stone veneer. At a minimum, the exposed surface layer should be designed and selected to provide three-dimensional structural complexity that creates a diversity of crevice sizes (e.g., mixed stone sizes, natural rounded stone veneer) and rounded edges (e.g., tumbled stone, or natural round stone veneer);
 - d. Develop a scour and cable protection plan for all complex habitat areas. At a minimum, the plan should include: 1) a clear depiction of the location and extent of proposed scour or cable protection within complex habitat (i.e., figures displaying existing areas with large boulders and/or medium to high multibeam backscatter returns and the extent of scour or cable protection proposed within each area); 2) all available habitat information for each identified areas (e.g., plan view imagery, video transects); and 3) detailed information on the proposed scour or cable protection materials for each area.
 - e. The scour and cable protection plan should be submitted to us for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work. BOEM should provide a

response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.

5. Avoid anchoring in complex habitats and areas of high habitat heterogeneity and complexity during all phases of the project including any area where large boulders (≥ 0.5 m in diameter), medium to high multibeam backscatter returns occur, or large benthic features occur (not inclusive of ripples/megaripples)
 - a. If anchoring is necessary in complex habitats and areas of high habitat heterogeneity during cable installation, extend the anchor lines to the extent practicable to minimize the number of times the anchors must be raised and lowered to reduce the amount of habitat disturbance. This should not be done if the anchor chain sweep area includes benthic features that will be impacted.
 - b. An anchoring plan should be developed to demonstrate how anchoring will be avoided and minimized in these habitats during all phases of the project. .
 - c. For any area where large boulders or medium to high multibeam backscatter returns occur and vessels must remain stationary, dynamic positioning systems (DPS) or mid-line buoys on anchor chains should be required.
 - d. At a minimum, the anchoring plan to be developed should include: 1) depictions of the lease and export cable areas that clearly identify areas, using GPS location coordinates, where large boulders and/or medium to high backscatter returns occur, and either: a) DPS, or b) mid-lines buoys are required for anchoring; 2) information describing the operations and number of vessels that will be necessary to maintain vessel position using DPS or mid-line buoys within complex areas (i.e., large boulder and medium to high multibeam backscatter areas); and 3) for any complex habitat area that is identified for it to be infeasible to be fully avoid anchoring within or using mid-line buoys, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided.
 - e. A copy of the anchoring plan, with complex habitat coordinates, should be provided to all vessel operators.
 - f. The anchoring plan should be submitted to us for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.
6. For boulder/cobble removal/relocation activities, boulders and cobble should be moved as close to the impact area as practicable in areas immediately adjacent to existing similar complex bottom and placed in a manner that does not hinder navigation or impede commercial fishing and avoids impacts to existing complex habitats.
 - a. In order to minimize impacts to complex habitats, boulders that will be relocated using boulder “pick” methods should be relocated outside the area necessary to clear and placed along the edge of existing complex habitats such that the placement of the relocated boulders will result in a marginal expansion of complex habitats into soft-bottom habitats (i.e., boulders should be placed outside

the relocation area and in an area of low multibeam backscatter return immediately adjacent to medium or high return areas) and reduce risk to navigation and fishing operations in the area.

- b. A boulder relocation plan should be developed that identifies where boulders will be removed from and where they will be placed. We recommend resource agencies and the fishing industry be consulted in preparation of the boulder relocation plan. The plan should identify all areas where a boulder plow will be used during site-preparation. At a minimum, the plan should include: 1) a clear depiction (i.e., figures) of the location of boulder relocation activities specified by activity type (e.g., pick or plow, removal or placement) and overlaid on multibeam acoustic backscatter data; 2) a detailed methodology for each type of boulder relocation activity and technical feasibility constraints; 3) any proposed measures to minimize impacts to attached epifaunal assemblages on boulder surfaces; 4) measures taken to avoid further adverse impacts to complex habitat and fishing operations; and 5) a summary of any consultation with resources agencies and the fishing industry in development of the plan.
 - c. The boulder relocation plan should be submitted to us for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.
7. In all offshore/nearshore areas where seafloor preparation activities will occur, benthic feature removal/clearance (i.e., sand wave clearance) via dredging, plowing, use of mass flow excavators, or other methods should be avoided through micro-siting WTGs and re-routing cables. Where plows, jets, grapnel runs or other similar methods are used, post-construction surveys capable of detecting bathymetry changes of 0.5 ft. or less should be completed to determine the height and width of any created berms. In any area where the berm height exceeds one foot above the existing grade, the created berm should be restored to match that of the existing grade/pre-construction conditions.

Noise Mitigation Recommendations

8. Noise mitigating measures should be required during construction, such as soft start procedures and the deployment of noise dampening equipment such as bubble curtains. BOEM should require the development of a specific plan outlining noise mitigation procedures in consultation with the resource agencies prior to any construction activities (BOEM's documents outline potential noise mitigation options, but does not currently specify which will be used).
- a. The noise mitigation plan should be filed with BOEM for approval before construction commences. This should include a minimum of 90 days for the resource agencies to review and provide comments. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins. The noise mitigation plan should include a process for notifying resource agencies within 24 hours if any evidence of a fish kill during construction activity is observed, and contingency plans to resolve issues.
 - b. Additional noise dampening/mitigation measures, beyond what is currently proposed, should be used during pile installation for WTGs and OSSs near

discrete, specific sensitive sites, such as known artificial reef sites to avoid and minimize potential impacts.

- i. For WTGs and OSSs - including most WTGs of Rows 1 through 8 and OSSs 1 and 2 - with the potential to impact artificial reefs and species using those reefs within the Atlantic City Reef and Great Egg Harbor artificial reef sites, additional noise dampening devices that result in greater noise dampening should be included to avoid and minimize impacts to habitats and species. Devices may include, but are not limited to isolation casings, isolation casings with bubble curtains inside, and double-walled isolation casings.

Monitoring Plan Recommendations

9. The Benthic Habitat Monitoring Plan should be revised to address our concerns (expressed in various RAI requests mentioned above) related to the adequacy of the proposed methods to detect changes in the existing benthic community structure in the offshore and inshore project areas. The plan should be required to address potential changes to macrobenthic communities across and within each habitat type in the project area, including the artificial substrates to be constructed.
 - a. The plan should include pre-construction/baseline monitoring data, which should be collected for a minimum of three years for each survey conducted.
 - b. The plan should include post-construction monitoring of the existing, natural soft and hard bottom benthic community structure within the lease and export cable corridor, post-construction benthic community development and invasive species (e.g., *Didemnum vexillum*) growth on: 1) constructed habitats, 2) natural habitats within the expected area of project impacts, and 3) within adjacent areas outside the area of impact.
 - c. The monitoring plan should also include measures to evaluate: 1) physical changes to the benthic habitat including depth, hardness, rugosity, slope, and other morphometrics through the regular collection of acoustic data (bathymetry and backscatter), 2) demersal juvenile fish species response to habitat impacts, 3) shellfish and SAV responses to habitat impacts, and 4) invasive species distribution and abundance with associated plans for removing/managing invasives.
 - d. The applicant should consult with the resource agencies in the revision and refinement of this plan and give the resource agencies a minimum of 90 days to review and comment on the plan. The applicant should ultimately file the plan with BOEM for approval. BOEM should ensure that the applicant's filing addresses, and includes, all resource agency comments, as well as the applicant's response to those comments.
10. The Fisheries Monitoring Plan should be revised to address our concerns expressed in our September 10, 2021, letter that have not yet been resolved, including examining specific impact producing factors, addressing survey design issues, assessing early life history stages (e.g. eggs, larvae, juveniles) composition and distribution, and ensuring sufficient baseline data are collected (e.g., the trawl survey has yet to begin). We also recommend

the examination of stomach contents to assess dietary changes that may result from habitat conversion and changes to predator/prey relationships. Note regarding surveys:

- a. The plan should state clear hypotheses and the specific experimental approaches and analytical methods planned to address each hypothesis.
 - b. Baseline monitoring data should be collected for a minimum of three years for each survey conducted.
 - c. Data should be collected using standardized methods that are consistent with those used by regional surveys.
 - d. Control locations should be sited outside of the likely zone of impact from wind development and have similar habitat types as the project area.
 - e. Experimental designs capable of detecting effects of impact producing factors should be used.
 - f. Specific studies on early life history stages (e.g., eggs, larvae, and juveniles), including transport and settlement, should be included in the plan.
 - i. Potential changes to inshore-offshore transport and settlement of larvae and juveniles (e.g., through altered hydrodynamics) should be evaluated through monitoring. It is important to note that the large, highly productive estuarine system of Great Bay and Little Egg Harbor/Inlet are adjacent to the export cable and wind farm area.
 - g. Response variables should include changes in abundance and distribution, size distribution, condition, and stomach contents.
 - h. Transparent protocols for data storage, access, and sharing should be part of the plan.
11. BOEM should require the development and implementation of a regional scale study to evaluate and monitor shifts and changes in hydrodynamics (e.g., vertical stratification, current velocities, and direction), primary production and secondary production, egg/larvae distribution and settlement, and predator-prey relationships that may occur as a result of the Ocean Wind project and across wind development areas and result in broader scale impacts for the region, managed fisheries, and NOAA-trust species. The study should address the uncertainties surrounding potential impacts to oceanographic processes (including potential impacts to the Mid-Atlantic Cold Pool), hydrodynamics, primary and secondary productivity, and predator-prey relationships that may result from this project and others cumulatively across the Mid-Atlantic WEAs.
12. The EFH consultation should be reinitiated prior to decommissioning turbines to ensure that the impact to EFH as a result of the decommissioning activities have been fully evaluated and minimized to the extent practicable.

EFH Conservation Recommendations - USACE jurisdiction

These EFH CRs focus on activities that occur primarily where the USACE has jurisdiction under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. In addition to BOEM EFH CRs 4, 5, 6, and 12 listed above, we recommend the following be incorporated as special conditions of any DA permit issued for this project:

Offshore Impact Minimization Recommendations

1. In all nearshore areas where seafloor preparation activities will occur, benthic feature removal/clearance (i.e., sand wave clearance) via dredging, plowing, use of mass flow excavators, or other methods should be avoided through micrositing and re-routing cables. Where plows, jets, grapnel runs or other similar methods are used, post-construction surveys capable of detecting bathymetry changes of 0.5 ft. or less should be completed to determine the height and width of any created berms. In any area where the berm height exceeds one foot above the existing grade, the created berm should be restored to match that of the existing grade/pre-construction conditions.
2. The nearshore portion of OCEC should be re-routed to avoid the N.J. Prime Fishing Ground known as “Cedar Creek.” Should total avoidance not be possible, this portion of the cable should be re-routed to cross “Cedar Creek” at the narrowest point(s), the fewest number of times.

Inshore/Estuarine Habitat Impact Minimization Recommendations

3. Dredging, plowing, or other extractive or turbidity/sediment-generating activities should be avoided in Barnegat Bay/estuarine areas from January 1 to May 31 of any given year to avoid and minimize impacts to EFH for winter flounder early life stages (eggs, larvae).
4. In all inshore/estuarine areas (i.e. Barnegat Bay, Great Egg Harbor Bay) where seafloor preparation and cable installation activities will occur, impacts to SAV, shellfish beds, and benthic features should be avoided and minimized through the use of horizontal directional drilling (HDD), micrositing and re-rerouting, to the maximum extent practicable.
 - a. All disturbed areas should be restored to pre-construction conditions, inclusive of bathymetry, contours, and sediment types.
 - b. Pre-construction surveys to determine bathymetry, contours and sediment types and post-construction surveys should be conducted to verify restoration has occurred. Survey results should be provided to NMFS.
5. All vessels should float at all stages of the tide.
6. Detailed frac-out plans should be developed for all areas where HDD is proposed to be used. These plans should be shared with us at a minimum 60 days prior to construction.
7. Avoid trenching in open waters, especially areas supporting SAV and shellfish, and wetlands.
 - a. If open trenching is used, excavated materials should not be sidecast or placed in the aquatic environment. All materials should be stored on uplands and placed back into the trench to restore the excavated areas, or removed to a suitable upland disposal site. Trenched areas should be restored to pre-construction conditions with native and/or clean, compatible material.

SAV and Shellfish Specific Recommendations

8. Avoid cable installation, dredging or other construction activities in submerged aquatic vegetation (SAV), particularly in Barnegat Bay.

- a. Systematic visual pre-construction surveys should be conducted to document occurrence and abundance/density of SAV. Three years of pre-construction surveys are recommended to account for yearly variations in SAV presence. However, at a minimum, one survey should be done during the growing season (April 15 to October 15) in the same calendar year construction commences (i.e., if cable installation is scheduled to begin July 1, 2023, SAV surveys should take place between April 15 and June 30, 2023). Visual surveys should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jettied.
 - b. Post-construction surveys should be conducted to document the recovery of areas temp
 - c. Barges should not be moored in SAV or SAV habitat. Maps derived from updated surveys should be provided to vessels/captains to ensure SAV is avoided;
 - d. Dredging, plowing, or other extractive or turbidity/sediment-generating activities should be avoided during the growing season (April 15 to October 15) of any given year to avoid and minimize impacts to SAV.
 - e. Should the applicant need to dredge/plow during the growing season of any given year, a minimum 500-ft. buffer between dredging/plowing area(s) and the edge of any SAV bed should be maintained between April 15 and October 15 of any year. The appropriate buffer is 250-ft. if the sediments are greater than 95% sand. Sequencing of dredging/plowing can be used to accommodate this buffer.
 - f. Provide compensatory mitigation for all areas of SAV impacted by construction activities including cable installation and dredging at a minimum ratio of 3:1. Based upon the information in various plans, documents, GIS viewing tools, the area of unavoidable SAV impact appears to be at least 2.9 acres (minimum). However, we are not yet certain that is accurate given the various export cable alignments.
9. Avoid installing cables, dredging, or other construction activities in high and moderate densities of shellfish in Barnegat and Great Egg Harbor Bay and surrounding estuarine waters. Project-specific surveys should be conducted to complement existing NJDEP mapping efforts.
 - a. Systematic visual pre-construction surveys should be conducted to document occurrence and abundance/density of shellfish. Three years of pre-construction surveys are recommended to account for yearly variations in SAV presence. However, at a minimum, one survey should be done during the growing season in the same calendar year construction commences (i.e., if cable installation is scheduled to begin July 1, 2023, surveys should take place in 2023, prior to June 30). Visual surveys should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jettied.
 - b. Provide compensatory mitigation for impacts to areas of soft clams, oysters, and high and moderate densities of hard clams that cannot be avoided. Mitigation should be coordinated with the New Jersey Department of Environmental Protection's Bureau of Shellfisheries.

10. An inshore/estuarine shellfish and SAV-specific monitoring plan should be developed to monitor potential construction-related (trenching/sedimentation) and operational impacts (heat, EMF) to SAV and shellfish in Barnegat Bay. At a minimum, monitoring should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jettied. A before–after-gradient (BAG) survey design should be employed for any monitoring. This monitoring can be included in Benthic Habitat or Fisheries Monitoring plans (mentioned above).

Wetland Specific Recommendations

11. Use horizontal directional drilling in areas where the export cable crosses wetlands.
12. Do not stage equipment in wetlands.
13. Use construction mats if work in wetlands is unavoidable.
14. Restore all impacted wetlands to pre-construction conditions and monitor the restored areas for a minimum of five years to ensure successful restoration.
 - a. Provide NMFS with a copy of the restoration plan for review and comment at least 60 days prior to the issuance of a DA permit...
 - b. The restoration plan should be approved prior to the issuance of the DA permit and be included as a special condition of the permit.
15. Provide compensatory mitigation for all permanent impacts to wetlands and short-term/temporary impacts lasting more than 12 months.
 - a. Quantify all permanent and short-term/temporary impacts and provide project plans delineating the areas impacted prior to the issuance of the DA permit.
 - b. Compensatory mitigation ratios should be as follows:
 - i. A minimum 3:1 ratio if the mitigation is the enhancement or restoration/rehabilitation of existing wetlands.
 - ii. A minimum 2:1 ratio if the mitigation is the creation of wetlands from uplands or the restoration/rehabilitation of areas that are currently uplands but were once wetlands.

Compensatory Mitigation Recommendations

16. Compensatory mitigation should be provided for any unavoidable direct, indirect and individual, cumulative, synergistic impacts to SAV, shellfish, and wetlands. A compensatory mitigation plan that satisfies each element of a complete compensatory mitigation plan as identified in the published regulations 33 CFR Parts 325 and 332 “Compensatory Mitigation for Losses of Aquatic Resources,” (Mitigation Rule) should be provided for NMFS review prior to project authorization. This plan should be included as a special condition of the permit.
 - a. Compensatory mitigation should occur prior to, or concurrently with, the impacts.
 - b. The compensatory mitigation plans should be made special conditions of the DA permit.

Please note that Section 305(b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including a description of measures you have adopted that avoid, mitigate, or offset the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305(b)(4)(B) of the MSA also indicates that you must explain your reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(1) if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendations.

Fish and Wildlife Coordination Act Recommendations

The Fish and Wildlife Coordination Act (FWCA) provides authority for our involvement in evaluating impacts to fish and wildlife from proposed federal actions that may affect waters of the United States. The FWCA requires that wildlife conservation be given equal consideration to other features of water resource development programs. Our FWCA recommendations are as follows:

1. Project-level and the project's contribution to region-level impacts on NOAA Fisheries scientific surveys should be evaluated and described, and plans to mitigate these impacts at the project and regional levels should be included in this analysis. Mitigation is necessary to ensure that NOAA Fisheries can continue to accurately, precisely, and timely execute our responsibilities to monitor the status and health of trust resources.
2. A communication plan identifying the locations of relocated boulders and any cable protection measures (i.e., concrete mattresses) should be developed to help inform marine users, including, but not limited to the fishing industry and entities conducting scientific surveys, of potential gear obstructions.
3. Impacts to the Atlantic City and Great Egg harbor artificial reefs should be avoided due to their importance as habitat for a variety of federally and state managed species in addition to strong recreational fisheries.
 - a. Additional noise attenuating devices such as isolation casings should be used during pile driving of WTGs and OSSs that may impact these artificial reef areas through elevated underwater noise.
 - b. Conduct in-situ monitoring of artificial reefs pre-, during, and post-construction to evaluate temporary, short-term and permanent impacts to these habitats and the species (e.g., black sea bass, tautog, weakfish, scup) that use them:
 - i. Hydrophones should be used to monitor/ directly measure noise at various reefs throughout the broader Atlantic City and Great Egg Harbor reef sites. This monitoring will provide insights (validations) on the expected noise levels and distances described in the EFH assessment and other documents and will enable comparisons of "observed" (real world) versus "expected" (modeled/predicted). Monitoring should establish ambient noise levels (pre-construction) and determine noise levels from pile installation

- activities(during) and operation (post-construction) of the WTGs and farm;
- ii. Camera systems (e.g., GoPro's) and other relevant methods (e.g., direct observation via divers) should be used to monitor fish behavior.
 - iii. Traps and camera systems should be used to monitor fish species occurrence, community composition, and density/abundance.
 - iv. Monitoring data should be analyzed using statistically rigorous methods to evaluate the potential impacts of elevated underwater noise from pile installation and WTG and wind farm operation on artificial reefs.

Conclusion

We appreciate the opportunity to coordinate with BOEM on the Ocean Wind 1 offshore wind development project. The conservation recommendations we provide in this letter will help ensure that adverse effects to EFH, federally managed species, their prey, and other resources under our purview from this project are avoided, minimized and mitigated to the extent that the existing information and science allow. As discussed above, we recognize that there are significant uncertainties regarding the potential adverse effects of the construction and operation of OWWF and other proposed offshore wind farms in the region. As a result, there may be as yet unidentified adverse effects that have not been considered as part of this consultation. In addition, there are known adverse effects for which no conservation recommendations can be provided because we do not yet have sufficient science to develop those recommendations. Should you have any questions regarding these comments or the EFH consultation process, please contact Keith Hanson at Keith.Hanson@noaa.gov. The ESA consultation is ongoing and is expected to be complete by March 13, 2023. Should you have questions related to the ESA Section 7 consultation, please contact Julie Crocker at (978) 281-9480 or julie.crocker@noaa.gov.

Sincerely,



Louis A. Chiarella
Assistant Regional Administrator
for Habitat and Ecosystem Services

Attachment

cc: Brian Krevor, BOEM
Lisa Landers, BOEM
Will Waskes, BOEM
Ursula Howson, BOEM
Cheri Hunter, BSEE

Todd Schaible, USACE
Brian Anthony, USACE
Naomi Handell, USACE
Mark Austin, EPA
Viorica Petriman, EPA
Marco Finocchiaro, USEPA
Michael Ciappe, FWS
Eric Schradling, FWS
Stephanie Vail, Muse, FWS
Matt Creelman, USCG
George Detweiler, USCG
Christopher Moore, MAFMC
Thomas Nies, NEFMC
Robert Beal, ASMFC
Megan Brust, NJDEP
SusanTuxbury,NMFSESD
Peter Burns, NMFS HESD Julie
Crocker, NMFS PRD
Jaclyn Daly, NMFS OPR

From: Youhas, Robert CIV USARMY CENAP (USA) <Robert.Youhas@usace.army.mil>

Sent: Tuesday, February 14, 2023 10:54 AM

To: Jessie Murray - NOAA Federal <jessie.murray@noaa.gov>

Cc: Karen Greene - NOAA Federal <karen.greene@noaa.gov>; Meagan Riley - NOAA Federal <meagan.riley@noaa.gov>;
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Subject: Re: NAP-2022-00920-95 JCP&L X50 Electric Cable Replacement Project

Hi Jessie:

Regarding JCP&L's X50 Electric Cable Replacement Project across Barnegat Bay in Ocean County, NJ (NAP-2022-0920-95), in response to NMFS-HESD's 17 Nov 2022 EFH comment letter, attached are the following documents for your review and consideration:

- 1) NMFS-HESD EFH comment letter dated 17 Nov 2022
- 2) Revised EFH Worksheet dated 14 Feb 2023
- 3) Attachment A JCP&L Responses and Additional Info
- 4) EFH Mapper Results
- 5) Project Plans
- 6) Project Schedule
- 7) Sediment Sampling and Analysis

Thanks and please feel free contact me with any questions/clarifications.

Thanks, Rob

Robert Youhas
Regulatory Branch
U.S. Army Corps of Engineers - Philadelphia District
100 South Independence Mall West, 2nd Floor
Philadelphia, PA 19106-3400
(215) 656-6729 (office)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

November 17, 2022

Todd Schaible, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Philadelphia District
CENAP-OPR
100 South Independence Mall West,
Philadelphia, PA 19106-340

RE: NAP-2022-00920-95, JCP&L - X50 Submarine Cable Replacement Project

Dear Mr. Schaible:

We have reviewed an essential fish habitat (EFH) assessment worksheet submitted to us on October 18, 2022, by JCP&L for the X50 Submarine Cable Replacement Project between Berkeley Township and Seaside Park Borough, Ocean County, New Jersey. The project includes the removal of two de-energized electric lines and subsequent installation of a new electric cable line within an established submarine utility easement beneath the seabed of Barnegat Bay. Our evaluation of this project has been complicated by the lack of information in the EFH worksheet needed to understand and assess the impacts of the proposed project on EFH and other NOAA trust resources. We are particularly concerned with impacts to submerged aquatic vegetation (SAV) beds, spawning and early life stage habitats for winter flounder (*Pseudopleuronectes americanus*). In addition, the assessment does not contain an analysis of alternatives that avoid and minimize impacts to these important habitats, or a compensatory mitigation or restoration plan. As such, the information provided in the EFH assessment worksheet is not sufficient for us to consider it complete to initiate EFH consultation at this time. As a result, we recommend that you hold the authorization for the proposed project in abeyance until the consultation is completed, impacts to these important habitats are avoided and minimized, and plans to restore impacted habitat and offset any permanent and temporal losses are developed and provided to us for review.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act (FWCA) require federal agencies to consult with us on projects such as this that may adversely affect essential fish habitat (EFH) and/or result in modifications to a natural stream or body of water. In turn, we must provide recommendations to conserve EFH and other NOAA trust resources. These recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from actions or proposed actions authorized, funded, or undertaken by that agency. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure. Because the removal and installation of the cables within the bay will disturb the sediments and SAV beds along the project alignment, both directly and indirectly, this project will adversely affect EFH and other



NOAA trust resources and consultation with us under both the MSA and FWCA is required. However, as stated above, the information provided in the EFH assessment worksheet is not sufficient for us to initiate consultation.

The project includes the one-time replacement of an existing submarine electric utility line across Barnegat Bay between Berkeley Township and Seaside Park Borough. Although not clearly indicated, it appears that the cable route length exceeds 8,000 linear feet based on the lengths of the cables to be removed within the three-foot-wide cable route easement. Cable removal is planned for the fall/winter of 2022 by the use of a barge-mounted crane and new cable installation is proposed for the spring of 2023 via jet sled and diver hand-jetting. According to information provided, the installation barge will use an anchor to winch itself across the bay pulling the jet sled along behind it, while the jet sled has a steady stream of water flowing through it to fluidize a trench. The EFH worksheet indicates a total temporary disturbance to 0.55-acres, which includes approximately 0.25-acres of SAV beds. However, it is unclear from the project description when work will begin and end in each season and the areal extent of the direct (i.e., trench width and length, anchor/chain damage, scouring due to the barge moving across the bottom in shallow water) and the indirect (i.e., turbidity, resettlement of suspended sediments onto adjacent areas) impacts.

The EFH assessment worksheet also does not include information about alternatives considered to avoid and minimize impacts to EFH and NOAA trust resources including SAV which is a Habitat Area of Particular Concern (HAPC) for summer flounder (*Paralichthys dentatus*) and a special aquatic site as defined in the Clean Water Act (CWA) at 40 CFR 230.40 through 230.45. As you are aware, the CWA Section 404(b)(1) Guidelines (Guidelines) allows permit issuance for only the least environmentally damaging practicable alternative (LEDPA). The Guidelines include two rebuttable presumptions for projects with discharges into waters of the U.S., which involve special aquatic sites that do not require access to or siting within the special aquatic site(s) to achieve their basic project purpose, which in this case appears the transmission of electricity between Berkeley Township and Seaside Park. The first presumption states that alternatives that do not affect special aquatic sites are presumed to be available. The second presumption states that practicable alternatives located in non-special aquatic sites (e.g., other waters, uplands, etc.) have less adverse impact on the aquatic ecosystem. It is the applicant's responsibility to clearly demonstrate that both of these presumptions have been rebutted in order to pass the alternatives portion of the Guidelines. Based upon the information provided, it does not appear that the applicant has demonstrated that the proposed project is the LEDPA or that alternatives such as leaving the inactive cables in place, new cables on the existing bridge or along an alignment that avoids SAV, or using horizontal directional drilling (HDD) are not practicable. As a result, it does not appear that the applicant has demonstrated that the proposed action is the LEDPA. A robust analysis of alternatives should be provided as part of a revised EFH assessment.

Aquatic Resources

The Barnegat Bay provides habitat for many aquatic species including both state and federally managed species and their forage, including bluefish (*Pomatomus saltatrix*), summer flounder, scup (*Stenotomus chrysops*), black sea bass (*Centropomus striata*), Atlantic butterflyfish (*Peprilus*

triacanthus), winter flounder, windowpane flounder (*Scophthalmus aquosus*), weakfish (*Cynoscion regalis*), striped bass (*Morone saxatilis*), tautog (*Tautoga onitis*), spot (*Leiostomus xanthurus*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), Atlantic croaker (*Micropogonias undulatus*), blue crab (*Callinectes sapidus*), horseshoe crab (*Limulus polyphemus*), Atlantic menhaden (*Brevoortia tyrannus*), killifish (*Fundulus spp.*), Atlantic silversides (*Menidia menidia*), bay anchovies (*Anchoa mitchilli*) and other assorted baitfishes and shrimps (e.g., *Neomysis americana*, *Mysidopsis bigelowi*). The Barnegat Bay supports strong recreational fishing from April to November for numerous species, including bluefish, striped bass and weakfish. The project area has also been designated as EFH for species managed by the New England, Mid-Atlantic Fishery Management Councils and NMFS including bluefish, black sea bass, Atlantic butterfly, summer flounder, winter flounder, windowpane, longfin inshore squid, bluefish, several species of skates, and a number of highly migratory species

The Barnegat Bay is also one of 28 estuaries located along the Atlantic, Gulf, and Pacific coasts and in Puerto Rico designated by the US EPA as an estuary of national significance due the ecological significance of the estuary; the biological productivity of the estuary and its contribution to commercial and recreational fish and wildlife resources; the impact of commercial, residential, recreational, or industrial activities on the health of the estuary; and the degree to which comprehensive planning management may contribute to the ecological integrity of the estuary. Under EPA's National Estuary Program, the Barnegat Bay Partnership (BBP), a partnership of federal, state, municipal, academic, business, and private organizations, has developed a [Comprehensive Conservation and Management Plan](#) (CCMP) to help restore, protect, and enhance the water quality and natural resources of the Barnegat Bay and its watershed. NOAA Fisheries and US Army Corps of Engineers are both members of this partnership and share a commitment to helping to achieve the goals expressed in the CCMP, including protecting and restoring ecologically important habitats such as SAV.

Submerged Aquatic Vegetation (SAV)

SAV habitats are among the most productive ecosystems in the world and perform a number of irreplaceable ecological functions, which range from chemical cycling and physical modification of the water column and sediments to providing food and shelter for ecologically and economically important organisms (Stephan and Bigford 1997; Lefcheck et al. 2019). As stated above, the SAV beds within Barnegat Bay are special aquatic sites under the CWA and designated as HAPC for summer flounder by the Mid-Atlantic Fisheries Management Council. HAPCs are subsets of EFH that exhibit one or more of the following traits: rare, stressed by development, provide important ecological functions for federally managed species, or are especially vulnerable to anthropogenic degradation. The New England Fishery Management Council has also highlighted the importance of SAV as EFH for winter flounder in the text description of EFH for winter flounder eggs in their [Omnibus Habitat Amendment 2](#).

A recent study evaluating over 11,000 comparisons from 160 peer-reviewed studies of structured habitats found that SAV is one of the most productive nearshore-structured nursery habitats; outperforming other structured habitats such as reefs and marshes in fish and invertebrate density and growth (Lefcheck et al. 2019). SAV beds, such as those observed in the project area, can dampen wave energy (Lei and Nepf, 2019), reduce current velocities (Fonseca et al., 1982), and

facilitate sediment deposition over large spatial scales (Zhang and Nepf, 2019). SAV can also improve water quality by assimilating excess dissolved nitrogen and phosphorus and promoting sediment denitrification (McGlathery et al., 2007).

SAV and its associated epiphytes are highly productive, produce a structural matrix on which many other species depend, improve water quality and stabilize sediments (Fonseca et al 1998). Larvae and juveniles of many important commercial and sport fish such as bluefish, summer flounder, spot, Atlantic croaker, herrings (Clupeidae) and many others appear in eelgrass beds in the spring and early summer (Fonseca et al 1992). Heckman and Thoman (1984) concluded that SAV beds are also important nursery habitats for blue crabs. According to Peterson (1982), in Kenworthy (1988), shallow dwelling hard clams may be protected from predation by the rhizome layer of seagrass beds. Rogers and Van Den Avyle (1983) suggest that SAV beds are important to summer flounder, and that any loss of these areas along the Atlantic Seaboard may affect summer flounder stocks.

SAV can also improve water quality by assimilating excess dissolved nitrogen and phosphorus and promoting sediment denitrification (McGlathery et al. 2007). SAV also is considered an efficient, long-term carbon sink for their ability to sequester carbon in their biomass and in soil (Hiraishi et al. 2014). Unlike other sources, SAV beds can sequester carbon that has been accumulated by rivers and tides and store it in soils for millennia (Duarte et al. 2005; Kennedy et al. 2010). Because SAV meadows can store relatively high quantities of carbon, the disturbance of SAV meadows can result in the release of stored gasses back into the atmosphere. Together, these important functions underscore the multifaceted benefits that SAV has on habitat and water quality.

According to the EFH assessment worksheet, the cable removal and installation will directly impact 0.25 acres of SAV beds. However, this area is not based upon current SAV mapping and does not include areas of SAV that may be degraded due to increased turbidity and water quality degradation resulting from the cable removal and installation activities. Further, because the existing habitat conditions (i.e., depths, extent of SAV) and the construction methods and timing were not clearly described in the worksheet, it is not clear if sufficient depths exist in the project area to allow barge access without damaging the SAV beds. It is also unclear if the anchor used to pull the barge across the bay will damage this important habitat or the cable removal or installation of the cable using the jet plow will alter the bathymetry in a way that will preclude SAV restoration along the cable alignment.

In addition to any direct impacts to SAV from the cable removal and installation, increases in suspended sediments and the subsequent reduction in water transparency caused by the construction activities can limit photosynthesis (Kenworthy and Haunert 1991; Short et al. 1991; Koch 2001; Eklöf et al. 2009). Experiments by Short et al. (1991) with eelgrass have shown that reduction in light decreases growth, promotes a reduction in plant density and can ultimately eliminate an eelgrass population altogether. Additional adverse impacts can result from changes in sedimentation, scour, and flows through changes in the bottom (bathymetry) due to trenching, plowing, anchoring, or other activities. These impacts may be permanent if the habitat is not restored and the SAV does not recover to pre-construction conditions. Even if the bay bottom is successfully restored to pre-construction conditions, it may take years for SAV to recolonize. As

a result, temporal losses of the ecological functions will also occur should construction be permitted within SAV beds. To accurately quantify the direct and indirect impacts to SAV from the cable removal and installation and compensatory mitigation amounts needed, an up-to-date survey of current distributions of SAV should be conducted during the early part of the growing season within and beyond the proposed corridors.

As consistent with [NOAA's Compensatory Mitigation Policy for Trust Resources](#), the Section 404(b)(1) Guidelines, and ASMFC's SAV policy impact avoidance and minimization should be considered and fully evaluated prior to the consideration of compensatory mitigation for unavoidable impacts. Inherent to this is the development of alternatives that completely avoid SAV, including alternate alignments or use of the existing bridge across the bay. Avoidance of impacts should be demonstrated in areas where SAV currently occurs or historically occurred.. Following this, minimization measures such as trenchless cable installation (i.e., HDD), and leaving the de-energized cables in place should be evaluated.

In addition to avoiding plowing, trenching, staging equipment, anchoring, and mooring within SAV beds, we also recommend the avoidance of activities that generate suspended sediments in and near SAV beds when the vegetation is actively growing and flowering between April 15 to October 15 of any given year to avoid affecting the plant's ability to photosynthesize which is essential for the plant's growth and survival. The minimum recommended buffer between sediment generating activities and the edge of any SAV beds is 250 feet if the sediments are 95% sand and 500 feet if less than 95% sand. Best management practices (BMPs) should also be used to ensure turbidity is minimized in the water to minimize indirect effects on SAV beds. In addition, all areas of SAV habitat impacted by the proposed project should be restored to their pre-construction conditions including depths, sediment types, vegetation, and shellfish. As you are aware, these are all typical recommendations that we make when a project impacts important ecological habitats.

Post-construction monitoring to assess the recovery of SAV beds impacted either directly or indirectly by the cable removal and installation is also necessary. It is premature for us to suggest the length of the post-construction monitoring at this time, since the full scope and nature of the impacts to this important habitat have yet to be fully defined. However, for planning purposes, we have typically recommended at least five years of monitoring take place with longer monitoring required if the success criteria developed for the restored areas or a compensatory mitigation site are not met, or if impacted areas are disturbed again; for example, if the maintenance or repairs to the cable are required. A shorter monitoring period may be appropriate if SAV recovers fully in a shorter amount of time. Reference sites outside the potential zone of effects should also be monitored to help differentiate between construction effects and any regional changes that may affect SAV recovery.

Compensatory mitigation for unavoidable impacts to SAV and the temporal loss of the ecological functions of this habitat should be provided. Because the compensatory process for seagrass is of questionable merit (Race and Fonseca 1996 in Fonseca et al. 1998), compensatory mitigation ratios for SAV are generally recommended to be greater than those typically approved for other aquatic habitat types to account for the difficulties in establishing a successful seagrass beds and the uncertainty associated with its long-term success. Because the applicant has not yet

demonstrated that the impacts to SAV habitat has been avoided and minimized to the maximum extent practicable, it is premature for us to provide any additional technical recommendations on suitable locations or ratios for compensatory mitigation for SAV. However, we note that Fonseca et al. (1998) states that the existence of techniques to transplant seagrass has often been used to justify the destruction of existing, productive habitat, and that this approach has consistently resulted in a net loss of habitat. This net loss occurs for a number of reasons including insufficient area for on-site planting to offset the habitat loss, and the selection of an inappropriate planting location off-site. These findings highlight the importance of avoiding impacts to SAV at the outset.

Winter Flounder

The project area is also EFH for all life stages of winter flounder. However, we are most concerned about impacts to winter flounder eggs and larvae. Winter flounder numbers are at or near historic lows, as stocks have steadily declined since the 1980s. The 2020 Southern New England/Mid-Atlantic management track stock assessment for winter flounder concluded that the stock is overfished and that the spawning stock biomass in 2019 was only 32% of the long-term sustainable biomass target. This stock is not making adequate rebuilding progress due to low productivity. Recruitment (i.e., survival of eggs to the juvenile and adult stages) has been declining despite low fishing mortality rates for the past 10 years. Therefore, it is important to minimize impacts to spawning success and egg/larval survival to rebuild this stock and achieve a sustainable commercial and recreational fishery for this stock.

Winter flounder ingress into spawning areas within Mid-Atlantic estuaries when water temperatures begin to decline in late fall. Tagging studies show that most return repeatedly to the same spawning grounds (Lobell 1939, Saila 1961, Grove 1982 in Collette and Klein-MacPhee 2002). Winter flounder typically spawn in the winter and early spring, although the exact timing is temperature dependent and thus varies with latitude; with spawning taking place from January to May throughout the northeast U.S. (Able and Fahay 1998). In the New York Bight, spawning in estuaries generally occurs from January to April (Scarlett and Allen 1992; Stoner et al. 1999) with spawning peaks observed in February and March (Scarlett and Allen 1992; Wilber et al. 2013).

Winter flounder have demersal, adhesive eggs that are deposited in clusters on the bottom and remain on the bottom until they hatch. Hatching generally occurs in two to three weeks, depending on temperature. After hatching, the larvae are initially planktonic, but following metamorphosis, they assume an epibenthic existence and appear “flounder-like.” Metamorphosis begins around five to six weeks after hatching, and is completed about eight weeks after hatching (Bigelow and Schroeder 1953). Winter flounder larvae are negatively buoyant (Pereira et al. 1999) and are typically more abundant near the bottom (Able and Fahay 1998). Additionally, young-of-year flounder tend to burrow in the sediment rather than swim away from threats. Thus, these life stages are more likely to be adversely affected by impacts to benthic habitat, such as those caused by the cable removal and installation.

Further, adverse impacts of turbidity and sedimentation on winter flounder eggs has been well documented (Nelson and Wheeler 1997; Berry et al. 2011; Suedel et al. 2017). Berry et al

(2011) studied the impacts of sedimentation on demersal adhesive winter flounder eggs in controlled laboratory experiments. Recently spawned (3-5 days after fertilization) eggs were exposed to clean, fine-grained sediment at various treatment depths including a control (no sediment). A trend of decreased hatching success and increased time to hatch with increasing sediment depth relative to controls was observed, despite some variability. Few eggs hatched successfully when buried in more than 3 millimeters (mm) of sediment and percent total hatch was highly variable in eggs buried in approximately 1 to 3 mm of sediment. Delayed hatch was observed in eggs buried in as little as 1 mm of sediment (Berry et al. 2011). These results - that hatching success of winter flounder eggs was drastically reduced at 3 mm or more of sediment depth and highly variable at lesser depths - were also nearly replicated by Suedel et al. (2017) and are consistent with similar studies (including both field and laboratory) involving other species (Messieh et al. 1991; Gatch et al. 2019; and others). To minimize impacts to winter flounder eggs and larvae and their EFH, we generally recommend that bottom-disturbing activities be avoided January 1 to May 31 of any given year in areas that have been designated as EFH for those life stages.

Endangered Species Act

Federally listed species may be present in the project area and consultation, pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, may be necessary. We understand that you are currently working with our Protected Resources Division on the submission of a request for ESA consultation. Should you have any questions about the Section 7 consultation process, please contact Meagan Riley at (978) 281-9339 or by e-mail (Meagan.Riley@noaa.gov).

Conclusion

As discussed above, the EFH assessment worksheet provided to us for this project does not contain sufficient information on the proposed action, existing habitat conditions, and alternatives for us to evaluate the effects of the proposed action on EFH and other NOAA trust resources or offer site-specific EFH conservation recommendations to avoid, minimize or offset adverse effects. Additional information necessary to initiate consultation includes:

- a more complete description of the proposed activities and the impacts associated with these activities;
- the existing habitat conditions including the current extent of SAV beds;
- a detailed construction schedule;
- the alternatives considered, including measures to avoid and minimize impacts to the aquatic environment;
- a habitat restoration and monitoring plan; and
- a compensatory mitigation plan to offset any permanent and/or temporal loss of ecological functions.

Until this information is provided and the required EFH consultation is completed, we recommend that any decision on permit issuance be held in abeyance. As always, we are available to coordinate with your staff so that this project can move forward efficiently and expeditiously as possible while still meeting our joint responsibilities to protect and conserve aquatic resources. If you have any questions or need additional information, please contact Jessie

Murray in our Highlands, NJ field office at (732) 872-3116 or by e-mail (Jessie.Murray@noaa.gov).

Sincerely,

Karen M. Greene
Mid-Atlantic Field Branch Chief
Habitat and Ecosystem Services Division

cc: USACE NAP – R. Youhas
GARFO PRD – M. Riley
EPA – R. Montgomerie. M. Finocchiaro
NJDEP – C. Keller
USFWS – E. Schrading, M. Ciappi
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC – R. Beal

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New England Fishery Management Council

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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

February 1, 2023

LTJG Thomas Davis, Chief
Waterways Management Division
First Coast Guard District

Dear Lieutenant Davis:

Please accept these comments from the New England Fishery Management Council on the draft report summarizing recommendations of the Port Access Route Study: Approaches to Maine, New Hampshire, and Massachusetts (MNMPARS).

The New England Fishery Management Council (Council) has primary management jurisdiction for 28 marine fishery species under nine FMPs in federal waters and is composed of members from Connecticut to Maine. In addition to managing these fisheries, the Council has developed measures to identify and conserve essential fish habitats, protect deep sea corals, and manage forage fisheries sustainably. A primary concern of ours is safe and efficient vessel operations given the potential for future offshore wind development in the Gulf of Maine. The Council supports policies for U.S. wind energy development and operations that will sustain the health of marine ecosystems and fisheries resources. While the Council recognizes the importance of domestic energy development to U.S. economic security, it recognizes that the marine fisheries in the Gulf of Maine, the New Hampshire Seacoast, and the Massachusetts Bay are profoundly important to the social and economic well-being of coastal communities in the Northeast US and provide numerous benefits to the nation, including domestic food security.

Coordination with BOEM leasing process:

The Council continues to strongly support the Coast Guard undertaking the MNMPARS. However, we remain concerned about the integration of the MNMPARS and BOEM's [Gulf of Maine Task Force](#) processes. The draft MNMPARS states that the Coast Guard is a cooperating agency to BOEM and has participated in GOM offshore wind-related meetings; the exact plan is still unclear regarding the extent to which the MNMPARS will align with BOEM's leasing process. The Coast Guard appears to be raising similar issues to BOEM as the Council (certain exclusion areas, consistent and grid pattern layouts and cabling, etc.) but given the timing, we are concerned that all of the measures to mitigate navigation and other risks identified in the draft report might not be adopted by BOEM.

Comments on the Possible Scope of Recommendations:

We are very pleased that all comments received during the Notice of Study phase of the MNMPARS are summarized in the draft report with responses from the Coast Guard. This is very helpful information. We commented twice on the Notice of Study¹ and thank the Coast Guard for addressing a number of our concerns directly.

The Council encouraged the Coast Guard to evaluate commercial and recreational fisheries activities in the MNMPARS. We were pleased to see that VMS, AIS, and additional data sources were considered in the draft report and that additional outreach to the fishing industry occurred.

Offshore wind will change where fishermen are able to fish and where NOAA Fisheries' surveys are able to be conducted. In our initial response to the Notice of Study, we recommended that the Coast Guard recognize research surveys in service of fisheries management as a high priority use and prioritize 'safe transit' requirements for the RV Bigelow and other research vessels. The Draft Report indicates that if the Coast Guard takes action to implement any routing measures that impact fishery research activities that those impacts would be assessed during the regulatory process that considers establishment of safety fairways, as part of the NEPA review. In our view, this is inadequate. The final PARS should explicitly recommend that siting and cabling for WEAs consider the need for safe access by survey vessels and other research activities.

The Council encouraged the Coast Guard to use the best available scientific methods for projecting potential future vessel traffic as wind farms become operational. In the draft report, we appreciated recognition that larger vessels, a higher traffic density, and displacement of some traditional transit routes are likely to occur, in part because of offshore energy infrastructure and also due to climate change and dynamic fisheries management. We are not clear how any proposed routing measures will change as a result of this, though, and whether the Coast Guard would consider updates to routing measures if new information becomes available. As stated in our Notice of Study comment letter, recent and historical transit and fishing activity are not necessarily representative of future conditions and it will be important to project or account for potential changes with offshore wind development. This is part of the reason the Council is concerned that MNMPARS is likely to be finalized prior to any establishment of Wind Energy Areas (i.e., the routing measures will likely need to be adjusted once areas for offshore wind development are identified).

To ensure the safety of future fishing operations, in the Notice of Study the Council encouraged the Coast Guard to engage in the following activities. We included follow-up responses based upon additional information and analyses included in the draft MNMPARS report:

- To add search and rescue as a category of impacts explicitly considered in the PARS
 - o Search and rescue is now included as a sub-category (within maritime incidents) of the MNMPARS study, which includes data on total number of incidents and incident types over time. We appreciate this addition.

¹ https://d23h0vhsm26o6d.cloudfront.net/220428_NEFMC_to_USCG_re_MNMPARS.pdf;
https://d23h0vhsm26o6d.cloudfront.net/220826_NEFMC_to_USCG_re_MNMPARS.pdf

- To specifically address whether cables associated with new wind farms would be allowed within safety fairways.
 - o The draft report provided recommendations that WEAs be identified to have consistent layouts and cable routes and emphasized that the Coast Guard is a cooperating agency to BOEM. The Council remains unclear whether any offshore export cables would be permitted within the new safety fairways.
- To provide advice to developers and BOEM on ways that layout of turbines and electrical service platforms could facilitate transit *within* wind energy areas.
 - o The draft report includes a recommendation to organize each wind farm in straight rows and columns, creating a grid pattern of two lines of orientation with common turbine spacing and layout for all projects. We agree with these recommendations. Furthermore, we recommend, and suggest that the final PARS recommend that adjacent wind farms should have the same orientation.
- To identify potential secondary effects of concentrating activity within safety fairways or other vessel routing measures, for example effects on managed or protected species, or essential fish habitats.
 - o The draft study notes that concentrating activity would benefit protected and managed fish species (i.e., via reduction in noise outside fairways) by not adding 2nm buffers to the fairway width on the western end of Stellwagen.
- To consider the effects of temporary restrictions on navigation designed to minimize risks to the North Atlantic right whale; for example, merchant vessels may change navigational patterns to avoid speed restricted zones.
 - o We appreciate that the Coast Guard acknowledged that there are new regulatory measures being proposed to protect habitat and protected species (namely Atlantic sturgeon and the North Atlantic Right Whale) and recognized that warming ocean temperatures and regulatory changes could both result in changes in traffic patterns and interaction risk. While the draft report states that these types of impacts will be assessed as part of the NEPA process, the Council recommends working with NOAA Fisheries to address protected resource impacts of the proposed routing measures in the final PARS.
 - o The draft report also includes speed restrictions to protect right whales as a policy that would apply to the MNMPARS study area. Does ‘policy’ indicate that this would be a regulatory requirement? If so, how would this be enforced? We recommend working with experts who are part of the Atlantic Large Whale Take Reduction Team on measures to mitigate impacts to the right whale.
- To consider the effects of severe winter weather, including icing, on the ability of vessels to navigate safely. These conditions occur less often in the areas previously studied but are encountered frequently in the Gulf of Maine.
 - o The Council appreciates that the Coast Guard considered additional sources of data and information (National Data Buoy Center, Northeast Regional Association of Coastal Ocean Observing Systems, Univ. of New Hampshire, etc.) and acknowledged that superstructure icing in the GOM exists from November through April, hindering vessel maneuverability.
- To further research how offshore wind can disrupt vessel radar systems and how these impacts can be mitigated.

- The draft report notes that this is outside the scope of MNMPARS but agrees with the Council's comment and recommends the mitigation methods described within a 2022 [National Academies Report](#). The Council appreciates the recognition that measures are needed to mitigate impacts to marine vessel radar from the presence of wind turbines. We encourage the Coast Guard to use its role as a cooperating agency to BOEM to implement these mitigation measures for GOM offshore wind projects.

Conclusion

Again, we strongly support the Coast Guard undertaking the MNMPARS and we appreciate the opportunity to provide comments to ensure the study meets the needs of fisheries resources, habitats, stakeholders, and the scientific surveys necessary for effective fishery management decision-making. The Council looks forward to working with the Coast Guard to ensure that the MNMPARS meets its objectives so that offshore wind installations and other changes in patterns of vessel traffic offshore do not preclude the ability of the Council and NMFS to effectively manage the region's fishery resources.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thomas A. Nies". The signature is fluid and cursive, with the first name "Thomas" being more prominent.

Thomas Nies
Executive Director



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

January 27, 2023

Mr. Matt Brookhart
Regional Director
Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration
105 East West Highway
Silver Spring, MD 20910

Dear Mr. Brookhart:

Thank you for your letter of July 6, 2022. Consistent with the National Marine Sanctuaries Act (specifically, 16 U.S.C. section 1434(a)(5)), your letter asked for our recommendation on fisheries management within the proposed Hudson Canyon National Marine Sanctuary (Sanctuary). While we are not taking a position in favor of or opposed to the Sanctuary designation, it is our belief that fisheries management that is consistent with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) supports the goals of the proposed sanctuary. We do not believe additional fisheries regulations are necessary at this time, and should they become necessary in the future they should be implemented through the responsible Councils and the MSA.

I acknowledge that the proposed Sanctuary is outside our Council's geographic area of responsibility and would be located within the geographic area of the Mid-Atlantic Fishery Management Council. However, one of the principles of the MSA is that fisheries should be managed throughout their range. We manage or co-manage several fisheries that operate in the Hudson Canyon area. Our management of these fisheries justifies our interest.

The MSA has been an effective foundation for U.S. fisheries management since 1977. The key principle of science-based management to achieve national objectives is a proven, effective strategy for sustainable management of fishery resources. All fishery management plans must be consistent with ten National Standards and require consideration of and compliance with other applicable laws. Over the years, amendments to the original MSA have strengthened its successful approach, adding requirements to identify and protect essential fish habitats and to create accountability around harvest limits, among other measures. As noted in annual reports to Congress, 92 percent of stocks with a known status are not subject to overfishing. The Regional Fishery Management Councils, supported by federal and state scientists, and with extensive public input and advice, are a key element of the management program established by the MSA. The Councils provide an open, transparent process that manages fisheries for the best net benefits to the nation.

The MSA directly supports three of the primary goals of the sanctuary designation. First, the MSA itself is designed to conserve the nation's marine wildlife (primarily managed fish and shellfish species) and their habitats. Its mandate requires us to consider all applicable laws, such as those that apply to the preservation of maritime cultural resources, marine mammals, and other protected species. Second, the MSA is designed to promote sustainable use of marine resources. Not only does it require science-based management, but it requires managers to consider impacts on communities when making decisions. Finally, the process we use is open and transparent, seeking participation from all members of the public. This is consistent with the goal of providing a platform for collaborative and diverse partnerships.

Regionally, the New England and Mid-Atlantic Fishery Management Councils combine to effectively manage the fishery resources in the Hudson Canyon area. While much of the fishing in NEFMC fishery management plans occurs in the Gulf of Maine and on Georges Bank, there is some activity that extends outside our geographic boundaries. The Atlantic Sea Scallop fishery, in particular, is prosecuted off New York and New Jersey near Hudson Canyon. This fishery is an example of the effectiveness of the MSA and the Council system. This \$500 million fishery has made New Bedford, Massachusetts the highest-revenue fishing port in the United States for over a decade. The management plan has reduced bycatch, prevented overfishing, and provided opportunities for both large and small commercial vessels. This highlights the biological, social, and economic benefits that are achieved with the Council's management program. I've enclosed brief summaries of our NEFMC fishery management plans. These summaries highlight the measures we have adopted and support our argument that, at present, additional measures are not necessary to achieve the Sanctuary's objectives.

In addition to managing fishery resources, the Council adopted an extensive program for identifying and protecting essential fish habitat. Both Councils adopted large closures to protect deep-sea corals, with the combined areas encompassing over 172,000 square kilometers, slightly larger than the state of Florida. The Mid-Atlantic closure includes Hudson Canyon. Fishing is prohibited within these areas, with narrow exemptions provided for selected gear types. These measures were enacted under section 303(b)(2) of the MSA which gives Councils the discretion to enact fishing restrictions to protect deep-sea coral habitats. This coral conservation work demonstrates the ability and willingness of the Council to protect valuable ecological components besides fishery resources.

Some who oppose Council management of fishery resources in the proposed Sanctuary inaccurately claim that the Councils can only protect habitat related to species managed as part of a fishery management unit. This is not correct. 50 CFR 600.805(b)(1) clearly states that "An FMP may describe, identify, and protect the habitat of species not in an FMU." While such habitat may not be designated as essential fish habitat, that does not prevent a Council from adopting measures to protect it from the adverse effects of fishing. This is an important clarification, since it is possible that the boundaries of the Sanctuary may extend outside the geographic range of essential fish habitat identified by one of the three East Coast Councils. If a future need for habitat protection from fishing, measures could be adopted by one or both Councils.

In closing, we reiterate that, should a Hudson Canyon National Marine Sanctuary be designated, any regulation of recreational or commercial fishing in the Sanctuary should be accomplished through the Council process authorized by the MSA. At present, we do not believe that any additional regulations are needed to achieve the goals of the proposed Sanctuary. We look forward to participating in the Sanctuary designation process to make sure our concerns are considered.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'ER', with a stylized flourish extending from the 'R'.

Eric Reid
Chair

ATTACHMENTS

Fishery Management Plan: Atlantic Herring FMP

Species Managed/Status:

Stock	Overfishing?	Overfished?
Atlantic Herring	No*	No

Gear Used: Midwater trawl, bottom trawl, and purse seine for those gears landing Atlantic herring for human consumption. Longline and trap/pot for those gears using Atlantic herring as bait.

Approximate Number of Active Vessels:

Commercial: vessels with limited access permits – 86: vessels with open access permits (incidental catch) - 1,747 (2020: Atlantic specifications for 2023-2025)

Recreational: Atlantic herring are caught only for bait in other recreational fisheries

Ex-Vessel Revenue: 2020 Revenue: \$6.735 million for 51 vessels that land Atlantic herring for which herring has been a main primary source of revenue. Does not include for bottom trawls for which herring is a minor revenue source.

Qualitative Description of Effort in Hudson Canyon Area: Relatively low, most landings come from areas east of 72° 30'.

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits and accountability measures
2. Area based quotas
3. Bycatch caps for incidental species (haddock, river herring and shad)
4. Effort controls – limited access for vessels targeting herring
5. Industry-funded monitoring program

Recreational: not applicable.

Fishery Management Plan: Northeast Multispecies (Groundfish)

Species Managed/Status:

Status, as currently determined by NOAA Fisheries.

Stock	Overfishing?	Overfished?
Georges Bank Cod	Yes	Yes
Gulf of Maine Cod	Yes	Yes
Georges Bank Haddock	No	No
Gulf of Maine Haddock	No	No
Georges Bank Yellowtail Flounder	Yes	Yes
Southern New England/Mid-Atlantic Yellowtail Flounder	No	Yes
Cape Cod/Gulf of Maine Yellowtail Flounder	No	No
American Plaice	No	No
Witch Flounder	Unknown	Yes
Georges Bank Winter Flounder	No	Yes
Gulf of Maine Winter Flounder	No	Unknown
Southern New England/Mid-Atlantic Winter Flounder	No	No
Acadian Redfish	No	No
White Hake	No	Yes
Pollock	No	No
Northern Windowpane Flounder	No	Yes
Southern Windowpane Flounder	No	No
Ocean Pout	No	Yes
Atlantic Halibut	No	Yes
Atlantic Wolffish	No	Yes

Gear Used: Bottom trawl, dredge, longline, gillnet, midwater trawl, trap/pot

Number of Active Vessels (approximate):

Commercial: 207 in 2020: sectors: 171 and common pool: 36

Recreational: Party/charter – 337 in 2020

Ex-Vessel Revenue: \$55.3 million (groundfish only)

Qualitative Description of Effort in Hudson Canyon Area:

Relatively low - for groundfish species with a few exceptions depending on the location of the area. The commercial catch of most groundfish stocks as well as the proportion of the groundfish catch from west of 71° 30' and for most stocks was low (Groundfish Plan Development Team, Northeast Multispecies FMP Amendment 23). The exceptions were the proportion of catch for SNE/MA winter flounder (19%), southern windowpane flounder (52%), ocean pout (19%), and SNE/MA yellowtail flounder (37%). (Percentages are for 2018 – and other years are also summarized. (Table 74 in

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits with accountability measures
2. Catch allocations to sectors - sector system including monitoring requirements
3. Possession restrictions for species
4. Minimum fish sizes
5. Closed areas – seasonal and year-round
6. Gear restrictions – minimum mesh sizes

Recreational: Bag limits, seasons, and size restrictions

The recreational fishery includes private anglers, party boat operators, and charter vessel operators. Several groundfish stocks are targeted by the recreational fishery, including GOM cod, GOM haddock, pollock, GOM winter flounder, and GB cod. GB haddock is targeted as well, but to a lesser extent. SNE/MA winter flounder and redfish are also target species. Wolffish was occasionally caught in the past.

Fishery Management Plan: Monkfish FMP

Species Managed/Status:

Stock / Management Unit	Overfishing?	Overfished?
Northern area monkfish	No	No
Southern area monkfish	No	No

Monkfish are assessed and managed in northern and southern areas, though there is uncertainty on if there are two stocks and some recent research suggests there is only one biological stock.

Gear Used: dredges and trawls from 1980 to the early 1990s. Through the 1990s and to today, gillnets have been the predominant gear for vessels landing monkfish, 72% on average since 2012. Discards have been primarily with otter trawl gear, followed by scallop dredges, and gillnets.

Approximate Number of Active Vessels:

Commercial: 562 (2021) Vessels with limited access monkfish permits have decreased over the past decade, from 670 to 562. Of those vessels, about 35-48% (270 in FY 2021) landed over 1 lb of monkfish each year and about 9-20% (113 in FY 2021) landed $\geq 10,000$ lb of monkfish.

Recreational: Recreational catch is consistently under 3% of total catch. There are no recreational management measures for the EEZ.

Ex-Vessel Revenue: \$10.3 million in 2021.

Qualitative Description of Effort in Hudson Canyon Area:

Low - Hudson Canyon is in the Southern Fishery Management Area. There is a low level of fishery effort in this area. According to NMFS data, there has been a small amount of monkfish landings from this area in most years since 2008 and it contributes about 1% or less to total revenue from monkfish. Notably though, there have been over 200 permits landing monkfish from this area in all the years in the time series. Monkfish is commonly discarded from scallop dredge gear. There probably are monkfish discards from this area in that fishery.

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits and accountability measures for each management area
2. Effort controls: days-at-sea, possession limits, minimum gillnet mesh size when fishing only on a Monkfish DAS
3. Discards are deducted from the annual catch target but otherwise not constrained.

Recreational: There are no recreational measures for the EEZ.

Fishery Management Plan: Small Mesh Multispecies FMP

Species Managed/Status:

Stock/Management Unit	Overfishing?	Overfished?
Northern management area silver hake (whiting)	No	No
Southern management area silver hake (incl. offshore hake)	No	No
Northern management area red hake	No	No
Southern management area red hake	No	Yes

Gear Used: Commercial - bottom trawl

Approximate Number of Active Vessels:

Commercial: About 280 vessels (2019)

Recreational: Not available

Ex-Vessel Revenue: \$ 9.017 million (2019 - Small-mesh Multispecies Specifications 2021-2023)

Qualitative Description of Effort in Hudson Canyon Area:

Commercial: Low - About 3% of combined landings (2020) were from this area based on data provided by NMFS.

Recreational: Low – Recreational fishing aboard party boats target southern red hake and whiting in parts of the Mid-Atlantic region, but the catches from this fishery are relatively low in the past 20 or so years due to changes in distribution and availability. (Small-mesh Multispecies Specifications 2021-2023).

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits and accountability measures for each of the four stock/management units.
2. Fishing gear mesh restrictions.

Recreational: There are no recreational measures in the federal fishery management plan, although recreational catch is accounted for in determining total allowable catch.

Fishery Management Plan: Atlantic Deep-sea Red Crab FMP

Species Managed/Status:

Stock	Overfishing?	Overfished?
Atlantic Deep-sea Red Crab)	No*	No*

* Based on catch-only method, overfishing (OFL) and overfished reference points are unknown.

Gear Used: Offshore trap/pots

Approximate Number of Active Vessels:

Commercial: 3 – 4 vessels.

Recreational: None.

Ex-Vessel Revenue: Approx. \$3.4 million (estimated based on 2021 landings (NOAA Fisheries) & 2019 prices (Fishing Years 2020-2023 Specifications)).

Qualitative Description of Effort in Hudson Canyon Area:

Commercial: High – The greatest portion of landings in the last three years have come from Red Crab Area 2, which comprises the EEZ off NY, NJ, DE and MD and includes the Hudson Canyon. Also, the Hudson Canyon is a critical area for this fishery within Area 2.

Recreational: None - there is no recreational for deep-sea red crab.

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits
2. Effort controls - limited access plus restrictions on the number of traps per vessel and trap size restrictions
3. Commercial landings restricted to males only

Fishery Management Plan: Atlantic Sea Scallops

Overfishing/Overfished Status:

Stock/Management Unit	Overfishing?	Overfished?
Atlantic Sea Scallops (single stock)	No	No

Gear Used: Scallop dredges, bottom trawls.

Approximate Number of Active Vessels (2021):

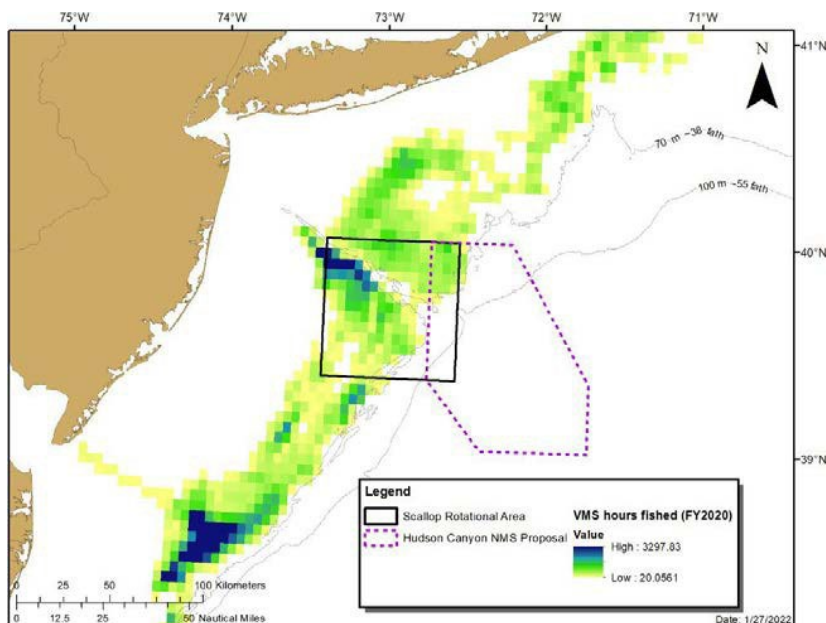
Commercial: 458 vessels.

Recreational: 0 (no recreational fishery).

Ex-Vessel Revenue: \$685.487 million (2021)

Qualitative Description of Effort in Hudson Canyon Area:

High - The Hudson Canyon Area includes important scallop fishing grounds east of New Jersey and South of Long Island. This area around Hudson Canyon is a highly productive area for the scallop fishery, supporting annual harvest by smaller General Category vessels and larger Limited Access vessels. The initial proposal area intersects with the New York Bight Scallop Rotational Area, which holds a large portion of scallop biomass in the Mid-Atlantic region and is likely to re-open in FY2024 for access area fishing. The “Texas Tower”, a historically productive scallop fishing area, is in the area of overlap between scallop fishing effort and the northwestern corner of the sanctuary proposal.



Brief Overview of Management Measures:**Commercial:**

1. Annual landings limits with accountability measures
2. License limitation (fixed number of permits)
3. Hybrid system allocation:
 - a. Rotational area management
 - b. Days at sea
4. Effort controls: days at sea, crew and gear size and configuration limits, vessel size restrictions
5. Gear restrictions to reduce bycatch and sea turtle interactions.

Recreational: There is no recreational scallop fishery in the Hudson Canyon

Fishery Management Plan: Northeast Skate Complex FMP

Species Managed/Status:

Species	Overfished?	Overfishing?
Barndoor Skate	No	No
Clearnose Skate	No	No
Little Skate	No	No
Rosette Skate	No	No
Smooth Skate	No	No
Thorny Skate	Yes	No
Winter Skate	No	No

Gear Used: Primarily gillnets and otter trawls. Note that all gear regulations are set in other FMPs; none are specific to skates.

Approximate Number of Active Vessels:

Commercial: About 350-425 vessels with a federal fishing permit landing skate (2021).

Recreational: Small fishery, number of vessels unknown.

Ex-Vessel Revenue: \$2.61 million in fishing year FY 2021.

Qualitative Description of Effort in Hudson Canyon Area:

Low - There is a low level of fishery effort in this area. According to NMFS data, there has been a small amount of skate landings from this area in most years since 2008 and it contributes about 1% or less to total revenue from skates. However, there have been over 100 permits landing skate from this area in six of the years in the time series, approximately 15-20% of all the permits landing skate.

Brief Overview of Management Measures:

Commercial:

1. Annual catch limits with accountability measures
2. Total allowable landings for each skate wings and bait are split into seasons (two for wings, three for bait).
3. Possession limits are specific to the wing and bait fisheries and are set for each season.
4. Gear restrictions- managed through other FMPs.

Recreational: Recreational catch currently is identified in year-end catch accounting. No other measures for recreational fishing.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

January 19, 2023

Stephan Ryba, Chief
Regulatory Branch
New York District, U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza
New York, New York 10278-0090

RE: Public Notice Numbers: NAN-2022-0900-EMI; New York City Economic Development Corporation (NYCEDC)
NAN-2022-0901-EMI; Empire Offshore Wind, LLC.
NAN-2022-0902-EMI; Empire Offshore Wind, LLC.

Dear Mr. Ryba:

We have reviewed the above listed public notices which collectively describe an application by Empire Offshore Wind, LLC. (Empire) to construct, operate, maintain, and eventually decommission two offshore wind farms, known as Empire Wind 1 and Empire Wind 2, in the Atlantic Ocean on the Outer Continental Shelf (OCS) within BOEM Renewable Energy Lease Area OCS-A 0512 located approximately 14 miles south of Long Island, New York (NY) and approximately 19.5 miles east of Long Branch, New Jersey (NJ). In addition to the offshore wind farms, the New York City Economic Development Corporation (NYCEDC) has requested authorization to undertake port upgrades at the South Brooklyn Marine Terminal (SBMT) in Bay Ridge Channel/Upper New York Bay in the Borough of Brooklyn, Kings County, City of New York, NY. The SBMT is intended to be the operations and maintenance hub and staging area for Empire Wind 1 and 2, as well as Beacon Wind, all three of which are being developed by Equinor; it is therefore considered a connected action.

The Bureau of Ocean Energy Management (BOEM) is the lead federal agency for offshore wind development activities and, as such, is responsible for consulting with us under the Magnuson Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), and the Endangered Species Act (ESA). The consultation with us under section 7 of the ESA and the essential fish habitat (EFH) consultation under the MSA have not yet been initiated, and therefore, it is premature for us to offer comments specific to the consultations or any project specific EFH conservation recommendations at this time. However, we recognize that both NOAA Fisheries (NMFS) and the US Army Corps of Engineers (USACE) are cooperating agencies with BOEM on the development of the National Environmental Policy Act (NEPA) documents in accordance with the Title 41 of the Fixing America's Surface Transportation (FAST) Act, known as FAST-41, and that a number of activities including your



public interest evaluation, the development of the NEPA documents, and the MSA, FWCA, and ESA consultations must all occur concurrently. We also note that the U.S. Coast Guard has jurisdiction under Section 9 of the River and Harbors Act of 1899 for a proposed cable bridge crossing over Barnums Channel, Oceanside, NY as part of the Empire Wind 2 application.

We have been working directly with BOEM, the lead federal agency, related to information needs for the required EFH consultation. On October 11, 2022, we provided BOEM with an additional information request in response to a draft EFH assessment received on August 12, 2022. Currently, we are working with BOEM to help ensure that the EFH assessment includes comprehensive project-specific descriptions of proposed activities and sub-activities (e.g., seabed preparation; bulkhead repair/replacement, dredging, mass flow excavation) and a comprehensive, robust evaluation of potential effects of the proposed project, including direct, indirect, individual, cumulative, and synergistic effects of all the proposed activities; analyses of potential alternatives to the proposed action; and comprehensive analyses and discussion of effects to habitats and species outside of the direct lease area and cable corridors.

Provided we receive the information requested in time, we expect our consultation with BOEM to be initiated on March 13, 2023, with the submission of a complete EFH assessment and will provide our recommendations to BOEM by June 12, 2023. We understand USACE plans to use the EFH consultation to satisfy your responsibilities under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. We recommend that any appropriate EFH and FWCA recommendations we make to BOEM as part of the MSA and FWCA consultations be incorporated as special conditions to any Department of the Army permits issued for the proposed activities. As a partner cooperating agency, and in response to your public notices, we offer the following technical assistance related to our mandates under MSA and FWCA as you undertake your evaluation and public interest review of the activities proposed within your regulatory authority. Because the activities described in the three public notices referenced above are interrelated and covered under a single NEPA document, we have combined our comments and technical assistance into one letter.

Project Description

Public Notice NAN-2022-900-EMI describes New York City Economic Development Corporation (NYCEDC), request for Department of the Army authorization for port upgrades including construction of bulkhead improvements, new pile supported and floating platforms, new fenders for vessel mooring, and dredging at the South Brooklyn Marine Terminal (SBMT) in Bay Ridge Channel/Upper New York Bay in the Borough of Brooklyn, Kings County, City of New York, NY.

Public Notice NAN-2022-0901-EMI describes Empire Offshore Wind, LLC's proposal to construct the Empire Wind 1 (EW 1) wind farm on approximately 28,733 acres within BOEM Renewable Energy Lease Area OCS-A 0512 with a submarine export cable making landfall at an onshore interconnection facility at the existing Gowanus 345-kV Substation in Brooklyn, NY. According to the public notice, EW1 will consist of up to fifty-seven (57) offshore wind turbine generators (WTGs) on steel monopile foundations located at up to seventy-eight (78) potential locations, scour protection around the base of the WTGs, up to approximately 116 nautical miles

(nm) of submarine interarray cables connecting the WTGs and one offshore substation (OSS) with a pile jacketed foundation.

Public Notice NAN-2022-0902-EMI describes Empire Offshore Wind, LLC's proposal to construct the Empire Wind 2 (EW2) wind farm on approximately 36,725 acres within BOEM Renewable Energy Lease Area OCS-A 0512 with a submarine cable making landfall at an expansion of the E.F. Barrett Power Station 138-kV Substation in Oceanside, NY. According to the public notice, EW2 will consist of up to ninety (90) offshore WTGs on steel monopile foundations at up to ninety-six (96) locations, scour protection around the base of the WTGs, up to approximately 144 nm of submarine interarray cables connecting the WTGs and one OSS with a pile jacketed foundation.

Wind Farm Structures and Cables

For both EW1 and EW2, each monopile foundation diameter would be up to approximately 36 feet in base diameter and installed by pile driving with a hydraulic hammer. Each monopile foundation would be protected with rock scour protection up to 207 feet in diameter (inclusive of the monopile foundation). With scour protection, the proposed footprint of each monopile foundation would be approximately 39,902 square feet (sq. ft.; 0.91 acre). Each of the offshore substations will be constructed on a four- or six-legged pile jacketed foundation which would consist of up to twelve piles in total. Each pile for the OSS piled jacket foundation would be up to approximately eight feet in diameter. The OSS would be protected with rock scour protection over approximately 93,560 sq. ft. (2.15 acres; inclusive of the piled jacket foundation).

The submarine interarray cables between the WTGs and each OSS will consist of 66kV 170 millimeter (mm) diameter HVAC cables. The cables have a target burial depth of six feet below the existing seabed. The interarray cables are proposed to be installed using jetting, plowing, and/or trenching methods. If the six-foot-burial depth is not achievable, cable protection measures may be used. It is estimated that approximately 10% of the interarray cable length would require remedial cable protection. The cable protection would be approximately 16 feet wide at the base and three feet wide at the top with a depth of approximately three feet.

Export Cables

For EW1, Empire Wind proposed to install two approximately 300 mm diameter 230kV HVAC submarine export cables. The submarine export cables would be approximately 40 nm in length within a single corridor from the OSS to the SBMT in Brooklyn, NY. The target burial depth for the export cables in areas located outside of Federal Navigation Channels is six feet below the seabed. The target burial depth for the export cables within Federal Navigation Channels and/or Anchorages is 15 feet below the authorized depth or depth of existing seabed (whichever is deeper). The submarine export cable corridor is approximately 500 feet wide to allow the applicant to microsite the cables based on preferable conditions. The two export cables will be spaced between 33 to 300 feet apart within the 500-foot-wide corridor.

For EW2, Empire Wind proposes to install three approximately 300 mm diameter 230kV HVAC submarine export cables. The submarine export cables would be approximately 26 nm in length within a single corridor from the OSS to the cable landfall area in the City of Long Beach, NY. The target burial depth for the export cables in areas is six feet below the existing seabed. The

submarine export cable corridor is approximately 900 feet wide to allow the applicant to microsite the cables based on preferable conditions. The three cables will be spaced between 33 to 300 feet apart within the 900-foot-wide corridor.

For both wind farms, the export cables are proposed to be installed using jetting, plowing, trenching, and/or dredging methods. If the six-foot burial depth is not achievable, cable protection measures may be used. It is estimated that up to approximately 10% of the export cables would require remedial cable protection. The cable protection would be up to approximately 36 feet wide at the base and five feet wide at the top with a depth of approximately five feet. In certain areas along the export cable route, pre-sweeping activities are necessary for cable laying activities where megaripples and sand waves are present. Pre-sweeping will occur in up to an approximately 164-foot width along the length of the megaripples and sand waves; the length of clearance will vary along the submarine export cable route. Megaripple and sand wave height vary depending on localized seabed and current characteristics. Sediment disturbance for both pre-sweeping activities and existing utility crossings would be performed using a mass flow excavator from a construction vessel.

Additional activities include pre-trenching along the submarine export cable route in areas where deeper burial depths are not suitable for traditional cable burial methods. Pre-trenching involves running cable burial equipment over portions of the route to soften the seabed and/or by using a suction hopper dredge to excavate additional sediment. It is anticipated that the applicant will pre-trench areas with medium to high strength clay and where burial requirements are a minimum of 15-feet.

Long Island Cable Landfall

The EW2 export cable is planned to make landfall in the City of Long Beach, NY within Riverside Boulevard and an adjacent vacant parcel. Three horizontal directional drill (HDD) installations are proposed from an upland entry point to three 150-foot-wide by 150-foot-long, cofferdamed offshore HDD exit pits. Approximately 4,900 cubic yards of material would be dredged from each pit within the cofferdam area to a depth of approximately -44 feet NAVD88 to create each offshore HDD pit. Dredged material may be sidecast or placed in a barge and be removed for beneficial reuse or disposal at an approved upland facility.

From Long Beach, the export cables will cross Reynolds Channel via HDD to an upland punch out point at the proposed onshore substation site in the Village of Island Park, in the Town of Hempstead, Long Island. Work proposed at the new onshore substation includes 650 linear feet of new and replacement bulkheading and filling three existing boat slips. In total approximately 3,040 sq. ft. (0.07 acre) existing aquatic habitat will be filled. In addition, the existing marina structures will be removed. Based upon the information in the public notice NAN-2021-00902, the cable bundle will ultimately connect to the final Point of Interconnection (POI) at E.F. Barrett Power Station in Oceanside. The cable route appears to be primarily uplands with the exception of an approximately 25-foot-wide by 300-foot-long above-water cable bridge across Barnums Channel. The construction of the cable bridge crossing is regulated by the U.S. Coast Guard under Section 9 of the Rivers and Harbors Act of 1899. According to the public notice, the US Coast Guard has determined that this reach of the waterway meets the Coast Guard criteria for advance approval for bridges, therefore, a Coast Guard bridge permit is not required

in advance of construction. Two temporary cofferdams are proposed to be installed during construction of the cable bridge.

South Brooklyn Marine Terminal Cable Landfall and Port Facility Upgrades

Port upgrades at SBMT include bulkhead improvements, new pile supported and floating platforms, dolphins, new fenders for vessel mooring, new riprap revetments, and dredging at various locations within the facility including Pier 39, Pier 35 and 32 and 33rd Street. Our review of the work proposed at SBMT has been complicated by the separation of the proposed actions into two public notices. This has made it difficult to ascertain the full scope of the activities proposed at this location and evaluate the effects. As a result, our technical assistance comments are based upon our best estimation of the actions proposed and the associated impacts. We may provide additional comments and technical assistance as the actual impacts become clear.

From the information provided in the public notices, it appears that in-water work to accommodate the export cable landing at SBMT includes the removal of an existing low level relieving platform and replacement with a high level platform including the installation of new 24-in diameter hollow steel pipe piles and a sheetpile toe wall. Also proposed is the mechanical dredging, with upland disposal, of three locations totaling 117,612 sq. ft. (2.70 acres) of the north side of Pier 35 for the installation of the cable conduit. This area will be backfilled with clean material once the cable has been installed. Riprap will also be placed in various locations. The full aerial extent of the impacts is not clear from the information provided, but it appears that it is at least 2000 sq. ft. for the export cable landfill activities at SBMT.

For the port facility upgrades, more substantial work at SBMT is proposed. This includes approximately 618,552 sq. ft. (14.2 acres) of mechanical dredging via closed clamshell bucket, with ten-years maintenance, removing approximately 189,000 cy of material to varying depths ranging between -25.0 NAVD88 and -41.0 feet NAVD88 with 1-2 feet of allowable over dredge. The proposed dredging is inclusive of an additional three feet of over-dredging for the placement of approximately 1 foot of clean sand to be installed over a 5.6-acre area to create a one-foot thick, clean sand cap along Pier 39 South and 39 West. All dredged material will be placed on a scow, followed by water decanting and transported to a state-approved upland disposal site. The material may be beneficially reused, depending on its suitability for such uses.

In addition to the dredging, the port facility upgrades include bulkhead replacement with associated backfill although the linear feet of bulkheading and backfill proposed is unclear since the amounts proposed at 32nd-33rd Street are not defined in the public notice. Also proposed is the placement of riprap, stone and a lesser amount of concrete over approximately 60,984 sq. ft. (1.4 acres) of existing unconsolidated bottom. More than 320 hollow, steel pipe piles ranging in size from 48 inches to 20 inches in diameter are proposed to support various new platforms, floats, ramps, and catwalks. It appears that these structures will cover nearly 87,120 sq. ft. (2 acres) of aquatic habitat, most notable in the proposed 63,597 (1.46 acre) concrete platform proposed at Pier 35.

General Comments

As mentioned above, our review of the activities proposed has been complicated by the issuance

of three separate public notices for the activities associated with the Empire Wind offshore wind farm. This has made it difficult to determine the full scope of impacts of the proposed actions, particularly those proposed at the SBMT. As a result, the full extent of aquatic habitat loss via filling and habitat degradation as well as conversion via shading, deepening, and bottom type conversion is unclear. This lack of clarity on the cumulative habitat loss and conversion across the three interrelated projects also makes it difficult to determine compensatory mitigation needs to offset adverse impacts to NOAA trust resources and EFH. In addition, because the export cable corridor plans were not overlaid on NOAA navigation charts or other base maps that include bathymetry and other features, it is difficult to determine if the cables impact prime fishing grounds identified in N.J.A.C. 7:7-9.4 or any other important habitats.

We also have significant concerns about an additional alternative that has been recently added to the DEIS for the turbine locations in federal waters. This alternative considers a new layout for EW1 based on economic and technical feasibility. Although the alternative includes fewer overall turbine locations under a modified layout in which turbines are removed from more central portions of EW1, it retains all proposed turbines on Cholera Bank and in the setback (between EW1 and EW2). We understand that the developer may propose additional modifications to the number and layout of the turbines in EW2. We recognize the limits of the USACE's jurisdiction in federal waters, but bring this concern to your attention due to the potential impacts to valuable fisheries habitat, as well as impacts to commercial and recreational fishing within the project area. We are particularly concerned about the placement of turbines on Cholera Bank which has been designated as prime fishing grounds by the New Jersey Department of Environmental Protection. This area is also widely known for supporting a sportfishery for striped bass (*Morone saxatilis*), Atlantic mackerel (*Scomber scombrus*), black sea bass (*Centropristis striata*), false albacore (*Euthynnus alletteratus*), weakfish (*Cynoscion regalis*), bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatus*), and tautog (*Tautoga onitis*). Commercial fisheries also exist for longfin inshore squid (*Doryteuthis pealeii*), bluefish, weakfish, summer flounder, scup (*Stenotomus chrysops*), Atlantic herring (*Clupea harengus*), Atlantic menhaden (*Brevoortia tyrannus*), monkfish (*Lophius americanus*), Atlantic scallop (*Placopecten magellanicus*), and Atlantic surfclam (*Spisula solidissima*). As you know, we have consistently recommended development activities of any kind be avoided on Cholera Bank and we encourage limiting the number of turbines installed in this area.

Given the size of the proposed project, substantial impacts to NOAA trust resources may occur as a result of project construction, operation, and decommissioning. Of particular concern are potential impacts to overwintering, spawning and early life stage habitats of commercially and recreationally important species and to sensitive habitats such as sand waves, megaripples and shoals. To avoid and minimize adverse impacts to these habitats we typically recommend: 1) the project be sited outside of areas of sensitive and complex habitats; and 2) in-water work time of year restrictions during migration, overwintering, spawning and early life history development periods. For this project, there is the potential for impacts to overwintering, spawning and early life stage habitats of multiple managed species and NOAA trust resources including winter flounder (*Pseudopleuronectes americanus*), longfin inshore squid, anadromous fish such as alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), American shad (*Alosa sapidissima*), striped bass, surfclams, scallops, and blue crab (*Callinectes sapidus*). We also have concerns about the potential effects of the project on commercial and recreational fishing

activities within the project area. This is especially concerning along the alignment of the export cable where it appears that sensitive habitats such as the shoal areas associated with the East Bank and north of the Ambrose Channel will be impacted by pre-sweeping activities.

As discussed below, alternatives that avoid and minimize impacts to aquatic habitats, fisheries, and fishing activities should be identified, evaluated fully, and implemented unless it can be demonstrated that they are not practicable. This includes cable alignments and installation methods that minimize impacts to sensitive habitats and life stages. As is standard practice with many coastal development activities that you authorize under your authorities, compensatory mitigation should be required to offset unavoidable losses of aquatic habitats and ecological functions. We have recently released a [comprehensive mitigation policy for NOAA trust resources](#) that complements the existing 2008 USACE and EPA Compensatory Mitigation Rule (33 CFR Parts 325 and 332 & 40 CFR Part 230). Both of these documents should be used to inform the development of a compensatory mitigation plan for unavoidable aquatic resource impacts.

Alternatives

The Clean Water Act Section 404(b)(1) Guidelines indicate that a Department of the Army permit should reflect the least environmentally damaging practicable alternative (LEDPA) (40 CFR 23.10(a)). To identify the LEDPA, a full range of practicable alternatives, defined by the purpose and need for the project should be evaluated and the range of alternatives should include adjustments to the project location/alignment in addition to design modifications that avoid or further minimize impacts. Based on the information available for review and other information provided in the Construction and Operations Plan (COP) and DEIS, it does not appear that the proposed project represents the LEDPA. In particular, alternate export cable routes and installation methods should be considered that avoid and minimize impacts to aquatic resources.

Further, as described in the NOAA Mitigation Policy for Trust Resources (NAO 216-123, Section 3.06) and consistent with the Section 404(b)(1) Guidelines impact avoidance and minimization must be considered and fully and fairly evaluated through the alternative development process before minimization measures and compensatory mitigation are considered; this is known as the mitigation sequence. This step-wise approach first focuses on the avoidance of adverse impacts, followed by the incorporation of minimization measures, limiting the degree and magnitude of adverse impacts. This approach is especially important where a number of ecologically valuable habitats including sensitive spawning and overwintering locations and prime fishing grounds are located within the proposed wind farm area and export cable corridor.

Aquatic Resources

As mentioned above, the project area provides habitat for a wide variety of commercially and recreationally important fish species and ecologically important habitats. The ones listed below are just a small sample we are highlighting for your awareness during your review of the application for this project. Because the project plans contained in the public notice do not include the delineation of aquatic resources in the area such as shellfish beds, we are providing

our comments related to aquatic resources based upon information provided to us by the developer and BOEM.

Winter Flounder

Winter flounder is one of the federally managed species we often comment on in our coordination with you on coastal development projects within the New York District waters. Our concern for this species is based upon a number of factors, but their somewhat unique life history is the main concern, particularly that of the eggs and larvae in the estuaries. Winter flounder ingress into spawning areas within mid-Atlantic estuaries when water temperatures begin to decline in late fall. Tagging studies show that most return repeatedly to the same spawning grounds (Lobell 1939, Saila 1961, Grove 1982 in Collette and Klein-MacPhee 2002). Winter flounder typically spawn in the winter and early spring, although the exact timing is temperature dependent and thus varies with latitude (Able and Fahay 1998); however movement into these spawning areas may occur earlier, generally from mid- to late November through December.

Winter flounder have demersal eggs that sink and remain on the bottom until they hatch. After hatching, the larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Winter flounder larvae are negatively buoyant (Pereira et al. 1999) and are typically more abundant near the bottom (Able and Fahay 1998). A study by Berry et al. (2011), which was replicated by Seudel et al. (2017), found decreasing hatching success with increased sediment burial depths of winter flounder eggs. Further, young-of-the-year flounder tend to burrow in the sediments rather than swim away from threats. As a result, these life stages are less mobile and thus more likely to be impacted by sediment disturbing activities such as those associated with the installation of the export cables within the waters inshore of Sandy Hook and Rockaway Point to the upstream extent of estuarine waters within the Hudson River, including the SBMT.

Winter flounder numbers are at or near historic lows, as stocks have steadily declined since the 1980s. The 2020 Southern New England/Mid-Atlantic management track stock assessment for winter flounder concluded that the stock is overfished (i.e., biomass is below the level at which the stock can produce maximum sustainable yield on a continuing basis) and that the spawning stock biomass in 2019 was only 32% of the long-term sustainable biomass target. This stock is not making adequate rebuilding progress due to low productivity. Recruitment (i.e., survival of eggs to the juvenile and adult stages) has been declining despite low fishing mortality rates for the past 10 years. Therefore, it is important to minimize impacts to spawning success and egg/larval survival to rebuild this stock and achieve a sustainable commercial and recreational fishery for this stock. Many areas of the proposed project are important spawning and nursery habitat for winter flounder. EFH for winter flounder eggs include sub-tidal estuarine and coastal benthic habitats from mean low water to 5 meters in areas of mud, muddy sand, sand, gravel, macroalgae, and submerged aquatic vegetation. Winter flounder larvae and juvenile EFH also includes the bottom types and depths (6 meters for larvae) found in the area of the proposed project and are generally the same to those of eggs and adults in estuarine environments.

When construction activities in EFH for winter flounder early life stages cannot be avoided, the preferred method of minimizing adverse effects to EFH is avoiding in-water construction activities such as seafloor disturbances and silt-producing activities when early life stages are

present, generally from January 15 to May 31. This seasonal restriction should be applied to all seabed preparation and cable installation activities, as well as all dredging and pile driving within the New York Harbor estuary in water depths less than 6 meters.

Diadromous Fishes

Diadromous fishes such as river herring (alewife and blueback herring), American shad, and striped bass inhabit the New York Harbor estuary and its tributaries at certain stages in their life cycles. River herring and shad spend most of their adult lives at sea, but return to freshwater areas in the Hudson River estuary to spawn in the spring (Waldman 2006). These species are believed to be repeat spawners, generally returning to their natal rivers to spawn (Collette and Klein-MacPhee 2002). Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in river herring populations throughout the mid-Atlantic since the mid-1960s, they have been designated as Species of Concern by NOAA.

Increases in turbidity due to the resuspension of sediments into the water column during construction activities can degrade water quality, lower dissolved oxygen levels, and potentially release chemical contaminants bound to the fine-grained estuarine/marine sediments. Suspended sediment can also mask pheromones used by migratory fishes such as these to reach their spawning grounds and impede their migration. Noise from the construction activities may also result in adverse effects including non-life threatening damage to body tissues, physiological effects including changes in stress hormones or hearing capabilities, or changes in behavior. In order to minimize the adverse effects of suspended sediment and noise on migrating anadromous fish, a time of year restriction may be appropriate, depending on the extent of construction activities within anadromous migratory corridors. We typically recommend a time-of-year restriction on in-water work from March 1 to June 30 any year during the upstream migration of these species to their spawning grounds. The implementation of this time-of-year restriction should be closely coordinated with us based on location and proposed activity, as it may only be necessary in limited circumstances.

The New York Harbor estuary provides habitat for one of the largest populations of striped bass on the East Coast, with resident and/or migratory contingents found from the tidal freshwater Hudson River to the coastal Atlantic Ocean depending on the season (Gahagan et al. 2015). The spawning migration of resident and coastal contingents moving upriver to the freshwater reaches of the Hudson River occurs in the spring (Clark 1968). Late larvae and early juveniles favor shallow water with sluggish currents, and likely reside in nearshore shallows for increased feeding opportunities and reduced predation risk. In addition, striped bass of all age groups, but particularly juveniles younger than age three, overwinter in the upper Harbor and lower Hudson River. Striped bass overwinter in a relatively dormant, immobile state until water temperature rises in the spring. As a result, we generally recommend that in-water be avoided in striped bass overwintering areas from November 15 to April 15 of any year. This would apply to the Bay Ridge Channel area and the SBMT.

Shellfish

Shellfish occur in the project area, including hard clam (*Mercenaria mercenaria*), soft shell clam (*Mya arenaria*), and blue crab (*Callinectes sapidus*). These species and others are important food resources for fish. Coen and Grizzle (2007) discuss the ecological value of shellfish habitat to a

variety of managed species (e.g. American lobster (*Homarus americanus*), American eel (*Anguilla rostrata*), and winter flounder. Clams are a prey species for a number of federally managed fish including skates, bluefish, summer flounder and windowpane (*Scophthalmus aquosus*); siphons of hard clams provide a food source for winter flounder and scup (*Stenotomus chrysops*) (Steimle et al. 2000). Infaunal species such as clams filter significant volumes of water, effectively retaining organic nutrients from the water column (Nakamura and Kerciku 2000; Forster and Zettler 2004).

Shellfish densities along both export cable routes should be determined via sampling in coordination with the New York State Department of Environmental Conservation (NYSDEC). Areas of high densities of shellfish (hard clams, soft shell clam, surfclam) should be avoided to the extent practicable, particularly any pre-sweep activities. Post-construction monitoring and the restoration of shellfish beds should be required where the pre-sweep activities have impacted areas with high to moderate densities of shellfish or where the beds have not recovered to post-construction conditions. It is also important to note that while the NYSDEC has classified the waters of Lower Bay as uncertified for shellfish harvesting, this classification is based upon human health protection and not the ecological value of the shellfish. As a result, the water quality or shellfish harvesting classifications are not relevant when considering the impacts to this ecologically important resource.

Blue Crab

Spawning, nursery, foraging, and overwintering habitats for blue crabs are found throughout the project area; blue crabs are commonly found on subtidal benthic habitat and are important food resources for predatory fish and birds (Bain et al. 2007, Waldman 2008). Steimle et al. (2000) has documented that juvenile blue crabs are a food source for several state and federally managed fish species including winter flounder, little skate (*Leucoraja erinacea*), winter skate (*Leucoraja ocellata*), scup, and summer flounder. The blue crab winter dredge fishery in New York is concentrated in the lower portion of New York Harbor (Briggs 1998). Blue crabs enter channel and slough areas, burrowing into surficial sediments as water temperature declines. Overwintering in a dormant, immobile state until water temperature rises in the spring; these and other organisms are in a torpid state and may be impacted by pre-sweep and cable installation activities in Lower Bay, particularly along the edges of Ambrose Channel. A time of year restriction, generally from December 1 to March 31 for these activities may be necessary.

Longfin Inshore Squid

Longfin inshore squid spawn throughout the New York Bight and migrate to shallow waters starting in April and continue through June or July when they return to deeper shelf waters; early life stages are found in coastal waters and throughout the project area. Egg masses are demersal and are typically attached to low-relief structure (e.g. rocks, small boulders) on sandy or muddy substrate in water depths less than 50 feet (Jacobson 2005). Recent research indicates that spawning may be concentrated in coastal waters off of the Rockaway peninsula (D. Stevenson, personal communication, 2018), which could result in increased vulnerability of longfin inshore squid EFH to cable installation activities including pre-sweep and pre-trenching activities as well as dredging. Longfin squid demonstrate elaborate spawning behavior that could be disturbed by construction activities (Shashar and Hanlon 2013). A time of year restriction, generally from May 1 to June 30, for cable installation activities that run through Cholera Bank may be

necessary.

Adverse Effects to Aquatic Resource

The activities described in the public notices will have adverse effects on NOAA trust resources, most notably those described above. Below, we highlight a number of activities that warrant close consideration and a thorough evaluation of alternatives to avoid and minimize adverse impacts. Pre-and post-construction sampling and monitoring, habitat restoration and compensatory mitigation may also be necessary to offset unavoidable adverse effects, especially when the activity results in the permanent loss or degradation of important habitats such as shellfish beds, sand waves, megaripples and shoals.

Export Cable Installation Activities

We are concerned about the adverse impacts the export cable installation activities will have on NOAA trust resources within the areas of USACE's jurisdiction including the NY Harbor area and the waters offshore of the south Shore of Long Island. Of particular concern is the export cable alignment within the NY Harbor estuary, as well as the pre-sweeping activities proposed in areas containing sand waves, megaripples and shoals in both state and federal waters. These complex habitats are important areas for a number of commercially and recreationally important species and should be avoided to the maximum extent practicable. From the information in the public notices, it appears that the export cables will cross these valuable habitats in a number of locations. The pre-sweeping activities proposed by the applicant in these areas include the use of a mass flow excavator to clear approximately 196,000 cubic yards of sediment from various locations along the export cable routes. Each area would be up to 164 feet wide with an unknown depth over an undefined area. However, the public notices do not discuss how impacts to these areas have been avoided or minimized, how contaminated sediments will be contained, and if and how these important habitats will be restored.

From the information available about mass flow excavators, it appears that this equipment uses water to push sediments away from an area dispersing them into the water column, similar to water jetting. This will impact NOAA trust resources in a number of ways including the physical destruction of organisms, including prey species, permanent or long term loss of complex habitat in areas where sand waves, ripples and megaripples exist, the loss of EFH for winter flounder early life stages in areas where depths will be increased deeper than 6 meters inshore, and the increased exposure to aquatic organisms contaminated sediments which can result in mortality, decreased growth and reproductive success, particularly for species and life stages that are less mobile. The use of mass flow excavators may result in sedimentation and burial of eggs and larvae of winter flounder, squid, and other fish species, leading to reduced hatching and survivorship due to mechanical crushing, abrasion, and low oxygenation (hypoxia). The demersal eggs of winter flounder, squid, and ocean pout (*Zoarces americanus*) are particularly vulnerable to burial by sedimentation (Newcombe and Jensen 1996; Berry et al. 2011; Navarro et al. 2016; Seudel et al. 2017). Longfin squid eggs or "mops" are attached to the seabed and need high flows and oxygenation for successful hatching; physical disturbance and decreased oxygenation, especially during the late stages of embryonic development can negatively impact hatching, survivorship, and growth mortality (Boletzky and Hanlon 1983; Navarro et al. 2016). Winter flounder produce small demersal eggs (less than 1 mm in diameter) that sink and adhere to the bottom before hatching in 2-3 weeks (Pereira et al. 1999). In laboratory experiments,

burial in 3 mm of fine sediment reduced hatching success significantly and hatching was delayed when eggs were buried in as little as 1 mm of sediment (Berry et al. 2011; Seudel et al. 2017). We have similar concerns about pre-trenching activities proposed within areas of contaminated sediments as well.

The common and accepted practice in New York Harbor is to manage contaminated sediments carefully to minimize their release into the water column. As a result, we recommend that the applicant fully characterize the contaminant levels in the sediments along the cable route in accordance with the requirements of the NYSDEC and avoid any cable laying activities in areas of elevated contaminants, especially those classified as Category C, which have a high potential to be toxic to aquatic life, and Category B which may pose a risk to aquatic organism, to the maximum extent practicable. In areas where contaminated sediments cannot be avoided, the use of a mass flow excavator or other equipment that does not minimize sediment dispersal should not be authorized. Rather, sediment removal via a closed clamshell bucket with the appropriate operational controls and sediment disposal should be required.

In areas where shoals, sand waves, ripples and megaripples exist, including the shoal areas associated with East Bank within the Lower Bay and shallow areas around Gravesend Bay and the Brooklyn shoreline, alternate cable alignments should be developed to avoid these important habitats. If crossing these areas is unavoidable, seasonal in-water work restrictions to protect sensitive life stages and habitat restoration should be required. Habitat restoration is particularly important in areas containing shoals, sand waves, ripples and megaripples where natural recovery of these features is unlikely. As discussed above, monitoring and restoration of shellfish beds impacted by cable installation activities should also be required. We are especially concerned about impacts to commercially harvestable areas of surfclams along the south shore of Long Island. We do not have current data on the densities of surfclams in this area, but data from the surveys conducted by USACE and others (USACE 2002) for beach nourishment activities along the south shore of Long Island indicate that surfclams may be present in the area of the export cable route into Long Beach, NY. The applicant should conduct a shellfish survey along the proposed export cable route and avoid areas that contain commercially harvestable densities of surfclams.

Port Development and Export Cable Landing Activities at SBMT

Port Development and export cable landing activities at the SBMT will adversely affect a number of NOAA trust resources including winter flounder and overwintering striped bass. As discussed above, dredging, riprap placement, pile driving and other in-water construction activities can impede spawning and migration of diadromous species, smother demersal eggs, and decrease water quality. Seasonal in-water work restrictions are typically used to avoid and minimize these adverse effects. For the work proposed at SBMT, seasonal protections for winter flounder and overwintering striped bass are recommended.

In addition, we note that there are a number of locations within the dredge footprint that will require overdredging and backfilling with clean material to cap areas where sediments with elevated levels of contaminants would be exposed, post-dredging. While we agree with and support this approach, we are concerned about the impacts maintenance dredging will have on these areas. According to public notice NAN-2021-0900, the applicant intends to undertake one

additional dredging event over the next 10 years, removing approximately 60,000-70,000 cy from the dredge footprint. The public notice does not discuss how the integrity of the cap over the contaminated hotspots will be maintained during maintenance dredging. We recognize that the applicant may not be able to predict the areal extent of the future maintenance dredging and if dredging will be necessary in the capped areas; however, a plan should be developed to ensure impacts to the cap are minimized to the extent practicable and any cap that is affected by the maintenance dredging is restored to its original thickness and extent.

In addition to the construction related impacts, the applicant proposes to install a number of new platforms and floats and to install riprap and stone armoring at various locations in the facility. This will result in habitat loss and degradation either through the conversion of aquatic habitat to uplands, shading, and the conversion of unconsolidated bottom to rock or concrete. The public notices do not clearly state the cumulative totals of the area affected by these activities. As the activities described in the three public notices move forward, a table that clearly identifies the areal extent of the combined fill, riprap, armoring, overwater structures, and the total linear feet of bulkheading should be compiled and provided to us so that we may refine our technical assistance if needed.

We are especially concerned about the shading and habitat conversion from the heavy lift platforms proposed at Pier 39S, Pier 35W, and Pier 39W. Studies on the effects of large pile-supported structures (Able et al. 1995) found that fishery habitat quality is poor under large pile-supported structures as compared to pile fields and interpier areas. Also, diversity, abundance and growth rates of juvenile fishes were lower under large pile-supported structures than in pile fields and interpier areas (Able et al. 1998, Duffy-Anderson and Able 1999). It is likely that the adverse conditions begin at the point where the low light levels under the pier begin to impair the success of sight feeding fish. The placement of riprap and stone armoring under these platforms further reduce the area's use and value as fisheries habitat. As a result, the applicant should quantify the areal extent of platform coverage and provide compensatory mitigation for the areas under the platforms that will be shaded or filled with riprap and armoring.

Export Cable Landing Activities in Long Island

Several activities associated with the export cable landing will adversely affect NOAA trust resources. As discussed above, the pre-sweeping and pre-trenching activities offshore will impact sand waves and megaripples that provide valuable fisheries habitat. Areas of commercially harvestable surfclams can also be found offshore. It is unclear if the export cable will impact this economically important resource. The applicant should evaluate surfclam densities within the export cable route and avoid placing the cable in areas with commercially harvestable densities.

Once onshore, the applicant intends to use HDD to cross Reynolds Channel. We appreciate the applicant's use of this cable installation method to minimize impacts to aquatic habitats. We recommend that a frac-out plan be developed to outline steps that will be taken should there be an accidental release of drilling muds. In addition, based upon the information in public notice NAN-2021-00900, bulkhead replacement and fill is proposed at the landing location, a former marina in the Village of Island Park. This will result in the placement of fill in 3070 sf of aquatic habitat. We recommend that this fill be combined with the fill amounts proposed at SBMT and

compensatory mitigation be required for the combined total. Further, seasonal restrictions on in water work to protect winter flounder eggs and larvae should be required here and in Barnums Channel where the applicant proposes to install cofferdams to construct a cable bridge across the channel.

Summary of seasonal restrictions and other technical assistance recommendations

1. Avoid in-water work, including cable installation, pre-trenching and pre-sweeping activities, pile driving, fill placement (riprap, concrete, etc.) from January 15 to May 31 in waters less than 6 meter deep within the waters of NY Harbor (inshore of Sandy Hook to Rockaway Point). This includes SBMT. In Reynolds Channel, the seasonal restriction is from January 1 to May 31.
2. Avoid in-water work in the Bay Ridge Channel and SBMT from November 15 to April 15 to minimize impacts to overwintering striped bass.
3. In areas where project activities may impede the anadromous fish migration, a seasonal restriction from March 1 to June 30 on in-water work may be recommended. Additional coordination with us is needed to determine if and where this seasonal protection would apply as more details on the construction activities are developed.
4. Avoid in-water work on or near Cholera Bank from May 1 to June 30 to minimize impacts to spawning longfin squid and associated egg masses.
5. Future maintenance dredging should be done in a manner that minimizes impacts to the clean fill caps placed over contaminated hotspots within the dredged footprint to the extent practicable and any cap that is affected by the maintenance dredging should be restored to its original thickness and extent.
6. All pile driving activities should be installed in a manner that minimizes turbidity and noise.
7. Frac-out plans should be developed for all areas where HDD is proposed to be used.
8. Within NY Harbor (Lower Bay, Gravesend Bay), delineate areas of high and moderate densities of shellfish (hard clams, soft clams, etc.). Avoid routing the export cable through these areas. If cable installation in these areas are unavoidable, the impacted areas should be restored to pre-construction conditions.
9. In the area offshore of Long Island, surfclam areas should be delineated and the export cable route should avoid areas of commercially harvestable densities of surfclams.
10. The use of a mass flow excavator or similar plant should not be permitted in areas of contaminated sediments (Category B or C). Any cable installation activities and seafloor preparation in these areas should be done in a manner that minimizes the release of contaminated sediments into the water column.
11. The export cable should avoid sand waves, ripples, megaripples and shoals, including the shallow water areas associated with East Bank, Gravesend Bay and the Brooklyn shore line. If these areas cannot be avoided, pre-sweep activities in these areas using a mass flow excavator should not be permitted, the crossings of these areas should be the shortest distance possible, and the impacted areas should be restored.
12. The areal extent of habitat loss from filling, shading and dredging (loss of winter flounder early life stage EFH due to deepening) should be calculated for all three public notices and combined to identify the cumulative habitat impacts from all the components of the Empire Wind project including work at SBMT. Compensatory mitigation should be

provided to offset these impacts. A compensatory mitigation plan developed in accordance with the 2008 federal Mitigation Rule and NOAA's Mitigation Policy for Trust Resources. This plan should be developed and provided to us to review prior to the issuance of any authorizations for the proposed actions. Compensatory mitigation should be completed prior to or concurrent with any authorized impacts.

Endangered Species Act

As noted above, BOEM is the lead action agency for the ESA section 7 consultation. BOEM submitted a Biological Assessment (BA) and request for consultation to NMFS on December 16, 2022, on behalf of the other action agencies, including the USACE. We are in the process of reviewing these documents to determine if we have all the information necessary to initiate the consultation. However, it is our understanding that USACE was not provided a copy of the December BA for review prior to this submission. We encourage USACE to work with BOEM to ensure that the scope of the action and activities identified by USACE in the three public notices are fully addressed in the BA and to otherwise address any errors or omissions in the BA as soon as possible.

The FAST-41 milestone date for initiating ESA consultation is currently set at March 13, 2023. Our consultation will consider the effects of all proposed federal actions on ESA listed species and critical habitat in the action area, including consideration of the effects of the activities authorized by the permit proposed for issuance by the USACE. Following initiation of consultation, we anticipate issuing a biological opinion that will determine whether the proposed actions are likely to jeopardize the continued existence of any listed species or destroy or adversely modify any designated critical habitat. This Opinion may include an Incidental Take Statement that may include Reasonable and Prudent Measures (RPMs) and implementing Terms and Conditions. It is our expectation that any of these RPMs or terms and conditions that apply to the USACE will be incorporated as conditions of any permit you issue for this project. We may also include Conservation Measures that should be considered by you as appropriate to further minimize effects of the proposed action on ESA-listed species and critical habitat.

Marine Mammal Protection Act (MMPA)

The MMPA prohibits the take of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if the taking will be of small numbers, have a negligible impact on the affected species or stock, and will not have an unmitigable adverse impacts on the availability of the species or stock(s) for taking for subsistence uses (where relevant). NMFS Office of Protected Resources has received a request from Empire Wind, LLC, for authorization to take small numbers of marine mammals incidental to construction activities associated with the Empire Wind offshore wind energy facility. NMFS announced the receipt of Empire Wind's request for the development and implementation of regulations governing the incidental taking of marine mammals in a September 9, 2022 *Federal Register* notice (87 FR 55409). NMFS is currently scheduled to publish the proposed Incidental

Take Authorization (ITA) in the *Federal Register* in April 2023 and make a final decision regarding the ITA in January 2024. If issued, the ITA will contain mitigation measures that may be relevant to conditions contained with the USACE permit. We encourage USACE to review the proposed rule, when published, to determine if any proposed mitigation measures conflict with those being considered by USACE. It is our expectation that USACE will condition any permit issued for this project to comply with all applicable laws, including the MMPA.

Conclusion

Thank you for the opportunity to comment on the public notices for this project. We look forward to continued coordination as a partner cooperating agency on this project as it moves forward in the NEPA process. We will update you on the status of the MSA, FWCA, and ESA consultations as information becomes available and if any additional information or issues of concern arise. If you have any questions or need additional information, please contact me at (978) 559-9871 or karen.greene@noaa.gov or Keith Hanson at keith.hanson@noaa.gov. Should you have any questions about the ongoing Section 7 consultation process for the Empire Wind project, please contact Julie Crocker at (978) 282-8480 or by email (julie.crocker@noaa.gov).

Sincerely,

Karen M. Greene
Mid-Atlantic Branch Chief
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cc:

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January 17, 2023

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RE: Comment on Empire Wind COP DEIS; Docket No. BOEM-2022-0053-0001

Comment Period: First, we formally request that BOEM extend the comment period for the Empire Wind DEIS. Unfortunately, BOEM's ambitious timeline for offshore wind advancement, combined with existing commitments of the commercial fishing industry, has largely precluded engagement with the Empire Wind DEIS process. As a stakeholder which has been actively involved in this lease since before it was even identified as a lease or put out to developers at auction, we have expressed substantial concerns over the location of this proposed project since 2015. We have continued to express those concerns, which have gone unaddressed, to BOEM for these 8 years. However, the DEIS for this project was released just prior to Thanksgiving, with a comment period extending over the holidays and spanning two weeks of Fishery Management Council meetings. At one of those meetings, the Mid Atlantic Fishery Management Council meeting, we also publicly requested that BOEM extend the comment period for this project.¹ BOEM held only 3 public stakeholder meetings, in the form of webinars, for this DEIS. The first, held on December 7, conflicted with the New England Fishery Management Council meeting and existing fisheries commitments at that meeting.² The other webinars, held December 13 and 15, conflicted with the Mid Atlantic Fishery Management Council meeting and existing fisheries commitments at that meeting.³ During the Empire DEIS comment period, BOEM has released DEIS and NOI documents for several other projects affecting the commercial fishing industry for public comment,⁴ as well as worked with various East Coast states to open a comment period on the fisheries compensation RFI.⁵

The commercial fishing industry is the stakeholder group with the most to lose as a result of offshore wind development. However, the pace of this rapid document development/review, meeting overload, and scheduling conflicts render participation in the BOEM process difficult at best. Commercial fishing companies, vessels, and operators are small businesses and do not have full time staff dedicated solely to the onslaught of offshore wind documents and meetings. BOEM and affected states may have entire agencies, staff, and legal teams dedicated to the oversight of the thousands of pages of DEIS documents, their Appendices, and COP documents. We in the fishing industry do not. To be required to comment on such substantial documents all at once, during fisheries management meetings scheduled the year prior, and particularly over the holidays when pre-existing commitments are likely to occur, is an inappropriate expectation of "stakeholder input" and engagement.

¹ See [MAFMC Meeting: December 12, 2022 - YouTube](#).

² See [December 2022 Council Meeting - Calendar - NEFMC](#).

³ See <https://www.boem.gov/renewable-energy/state-activities/empire-wind>.

⁴ See New England Wind/Vineyard Wind South at [New England Wind \(formerly Vineyard Wind South\) | Bureau of Ocean Energy Management \(boem.gov\)](#); see Sunrise Wind at [Sunrise Wind | Bureau of Ocean Energy Management \(boem.gov\)](#); see Mayflower Wind at [Mayflower Wind | Bureau of Ocean Energy Management \(boem.gov\)](#); see Coastal VA Offshore Wind at [Coastal Virginia Offshore Wind | Bureau of Ocean Energy Management \(boem.gov\)](#);

⁵ See [Microsoft Word - FisheriesCompensationFund_RFI_FINAL.docx \(nyftwg.com\)](#).

Therefore, we request an extension of the comment period so that the fishing industry is provided adequate time to comment on the Equinor DEIS as well as other BOEM documents simultaneously out for public comment.

Incorporation of our Previous Comments and Documents: We hereby incorporate all statements of our previous comments and documents submitted to BOEM on the Empire Wind lease, both verbal and written, since 2015. Many of these can be found in our comments on the NOI, all of which we incorporate by reference, here: [Regulations.gov](https://www.regulations.gov). We also incorporate by reference all our previous offshore wind comments to BOEM regarding BOEM process, segmentation of NEPA, lack of compliance with OSLA, safety issues, and inadequate fisheries analysis and consideration. These include, but are not limited to, our written and verbal comments on NOIs, EISs, BOEM's Path Forward, Draft Fisheries Mitigation Guidance and any and all other offshore wind related issues.

Project Modifications: It has come to our attention that the developer proposing Empire Wind did not complete its geotechnical surveys prior to submitting the COP and during those surveys has recently discovered problematic sediment in the lease area. Due to this discovery, the Alternatives considered by the document do not represent what is actually possible to construct in the lease area due to sediment type. This is yet another flaw in the BOEM process; namely, that the order of analysis, documentation and review is out of sync with developer activity and reality.

It is our understanding that the developer itself intends to submit a new proposed layout, incorporating modifications due to this sediment discovery, via public comment on this DEIS docket. If this is the case, BOEM must release a Supplemental EIS specifically incorporating these modifications for public comment. A final project layout should not be something submitted as a public comment on a DEIS; it should be something clearly articulated and solicited for public comment within the DEIS.

This is particularly pertinent as the necessary modifications are likely to render other Alternatives, such as the Alternative E setback between EW1 and EW2, untenable should the project go forward with the planned number of turbines. Therefore, all the impacts of newly proposed layouts must be taken into account, both direct and indirect impacts on other Alternatives and uses/issues.

OSLA Claims: The disclaimer that BOEM has included on page 1-6 of the Empire DEIS is unique to this project and is clearly a defensive statement due to the fact that BOEM completely ignored its legal obligations when siting and leasing the Empire Wind lease. OSLA does not require that BOEM "consider" this list of issues at the end of its process during the DEIS phase while it determines COP approval. The law clearly states that the Secretary "**shall ensure that any activity** under [subsection 8(p) is **carried out in a manner that provides for-** (A) safety, (B) protection of the environment...(G) protection of correlative rights in the Outer Continental Shelf...(prevention of interference with reasonable uses (as determined by the Secretary) of the exclusive economic zone, the high seas, and the territorial seas..." This clearly refers to not only the COP review process, but also the Area ID and leasing processes as well. Obviously, BOEM has not sited nor leased the Empire Wind project area in compliance with these enumerated requirements.

We communicated with BOEM early in the NY WEA/Area ID process, prior to WEA designation and prior to lease sale. We provided BOEM with confidential information from over 20 vessels, prior to WEA designation, detailing the intense conflict that siting a WEA in this location would create. We highlighted the fact that BOEM's shoddy data being used for Area ID did not include impacts to the squid fishery, or any RI port, although RI contains the primary ports responsible for coastwide squid landings

and the squid fishery is substantially impacted by the proposed project. Our concerns were noted in the BOEM Director's Memo, dated March 14, 2016, titled "Decision Memorandum on New York Area Identification Pursuant to 30 CFR Section 585.211(b)", as were other squid and scallop fishery concerns with the siting of the WEA.⁶ However, that Memo authorized the Area ID despite these concerns.

The Memo on NY Area ID actually did contain multiple Options to remove aliquots from the Call Area to accommodate the squid and scallop fisheries. Option 1 recommended the removal of 173 aliquots prior to leasing to deconflict with the squid and scallop fisheries.⁷ Option 2 recommended the removal of 160 aliquots to deconflict with the squid and scallop fisheries.⁸ Option 3 recommended the removal of 147 aliquots to accommodate the squid and scallop fisheries.⁹ However, BOEM's Director chose Option 4, "No removal of area to accommodate squid and scallop fisheries at this time (consider leasing the entire Call Area, with 1 nm navigational setback)".¹⁰ Despite calls from NMFS, multiple US Senators, as well as stakeholders,¹¹ BOEM chose not to deconflict with fisheries, but to maintain these conflicts. This is a violation of OSCLA, as the law requires that the Secretary "shall ensure" the prevention of interference of reasonable uses of the US EEZ at every stage of its offshore wind process.

BOEM acknowledged in this Memo that "Selection of an Area ID option that maximizes leasing area by deferring consideration of known conflicts to a later stage in the process (e.g., pending Site Assessment Plan or COP approval) may increase the risk that BOEM leases some acreage that is later determined to be unsuitable for development. This could result in the lessee not having the ability to develop portions of the lease area in which it has invested...."¹² By choosing to perpetuate conflicts with commercial fishing and lease the entire NY WEA, BOEM knowingly did this. Now, at the DEIS stage, BOEM has adopted a Purpose and Need statement that primarily includes an Executive Order on Tackling the Climate Crisis, NY state climate goal legislation, NY state solicitations for offshore wind, and the developer's goals.¹³ There is a phrase about "promoting ocean co-use", but there is no true alternative for de-conflicting with fisheries that BOEM has long known present very real and documented conflicts in the lease area. None of the DEIS Proposed Alternatives revisit the Options considered in the 2016 Director's Memo to deconflict with the squid and scallop fisheries, which BOEM deferred to later in the process. We request that BOEM revisit and analyze each of these Options as Alternatives in a Supplemental DEIS. This will require BOEM to analyze Alternatives that do not include the developer's preferred number of turbines or a number of turbines that will fulfill any Power Purchase Agreements that the Developer has with NY state or other entities. Only then can BOEM fulfill both its NEPA obligations, as well as the first step under OSCLA to prevent interference with reasonable uses. If BOEM does not even begin the step to analyze what preventing interference would entail, it cannot fulfill this obligation.

It is also apparent in the NY WEA BOEM process that other OSCLA concerns were ignored, including national security (as the WEA directly overlays with a USCG Department of Homeland Security

⁶ See document, attached.

⁷ Ibid, p. 24.

⁸ Ibid, p. 25.

⁹ Ibid, p. 26.

¹⁰ Ibid, p. 28, p. 36.

¹¹ See our comments on the Empire Wind NOI at [Regulations.gov](https://www.regulations.gov).

¹² BOEM Director's Memo, dated March 14, 2016, titled "Decision Memorandum on New York Area Identification Pursuant to 30 CFR Section 585.211(b)" p. 23.

¹³ See DEIS, Section 1.2.

Weapons Training Area),¹⁴ navigational safety (the USCG recommendation for a 2 nm setback from the TSS in order to reduce the safety/navigational risk from “high” to “medium”),¹⁵ safety (the NOAA IOOS input regarding the loss of HF radar used by the USCG for Search and Rescue),¹⁶ etc.

BOEM’s process refuses to go beyond acknowledgment of conflicts and cross into the realm of actively deconflicting. This is because BOEM has **no standard** for determining how much conflict is too much conflict, particularly with regards to fisheries. The 2016 Director’s Memo states on page 5, “BOEM has not established a value or ‘revenue threshold’ for determining if areas should be removed from leasing consideration due to fisheries conflicts.” This position has not changed since 2016. Without standardized processes by which areas from leases can be eliminated for buildout to account for prevention of interference with reasonable uses of the EEZ, BOEM cannot fulfill its own legal obligations.

Additionally, with regards to OSLA compliance, BOEM is quick to emphasize in its Section 1.3 “Regulatory Overview” its April 9, 2021 legal memo “M-Opinion 37067” regarding OSLA compliance and fisheries, which reverses BOEM’s legal memo on the same subject from December 14, 2020, “M-37059”.¹⁷ It is clear that such swings of legal opinion in the span of only five months has nothing to do with the law itself but rather on political changes in Administration. BOEM has no internal legal or procedural standards other than political ones. If this is not the case and BOEM has clear, and repeatable, internal standards for review that do not change regardless of Administration, and/or clear and repeatable standards and thresholds for what constitutes prevention of interference with reasonable uses, or clear and repeatable standards and thresholds for deconflicting with uses of the ocean other than offshore wind, we request a full disclosure and explanation of those standards and thresholds, including implementation dates.

We also request a full explanation for the change in BOEM’s legal stance on this issue within the short time span of five months.

No Action Alternative: We hereby incorporate our comments on Revolution Wind regarding the No Action Alternative here, as the same arguments apply.¹⁸ BOEM has corrupted a true No Action Alternative, which has served to water down the impact of the individual project under DEIS review, in this case Empire Wind. The No Action Alternative on Table 2-1 of the DEIS includes “all other existing or other reasonably foreseeable future activities described in Appendix F”. Appendix F contains all other leases currently leased on the Atlantic OCS, whether permitted or not, for a total of 34 projects.¹⁹

This alternative confuses a true NEPA No Action with a Cumulative Impacts Analysis, also required by NEPA. BOEM cannot legally conflate the two, as it affects the analysis results. The No Action alternative, in a true NEPA sense, would analyze a disapproval of the Empire Wind project, and include only the 3 projects that BOEM has already approved (i.e. Vineyard Wind and South Fork Wind Farm, and two experimental turbines off Virginia). A Cumulative Impacts Analysis would include all future foreseeable projects- which would include not only permitted projects but also potential additional wind

¹⁴ See March 8, 2013 letter, attached.

¹⁵ See USCG letter to BOEM regarding the NY Area ID, September 28, 2015, attached

¹⁶ See July 14, 2014 letter from Zdenka Willis, Director US IOOS Program Office to BOEM Re BOEM Dockets BOEM-2014-0087 and BOEM-2014-0003, attached.

¹⁷ Attached with this comment.

¹⁸ See <https://www.regulations.gov/comment/BOEM-2022-0045-0059>.

¹⁹ See [Empire Offshore Wind Projects Environmental Impact Statement \(boem.gov\)](https://www.boem.gov/empire-offshore-wind-projects-environmental-impact-statement), Table F-2.

farms in all currently leased BOEM areas, as well as the potential for new leases in the Central Atlantic Call Area. The difference in analysis between 3 projects and 34 projects makes a difference when examining impacts from the Empire Wind project.

However, the DEIS uses the No Action Alternative for its Cumulative Impacts Assessment, despite the fact that the two are not the same. By doing so, it waters down the impact of the project under consideration. This is unacceptable and must be re-analyzed.

Alternatives Considered for Analysis: BOEM has not considered a reasonable range of alternatives per NEPA. It has constrained its Alternatives that meet the developer's goals of a certain number of turbines, not the consideration of prevention of interference with reasonable uses, which requires analysis such as those in Options 1-3 of the 2016 BOEM Director's memo, which we request to be added to the DEIS and analyzed.

Alternative A, the Proposed Action, as well as other Alternatives, align the turbines with a 0.65 nm spacing. This does not include the 207 foot diameter of scour protection at each base, As we have repeatedly stated to BOEM, even the 1 nm spacing of the Vineyard Wind project is not enough for our vessels and mobile bottom tending gear to safely operate within the wind farm. Neither can we safely operate over electrical cables, or any scour protection and/or cable protection. We have demonstrated to BOEM previously in our Vineyard Wind SEIS comments that even developers with existing projects overseas explicitly warn mobile bottom tending gear that snagging in such cables can cause "serious risk of loss of life". Therefore, BOEM cannot expect a different situation here. As such, operating in such an array is not an option.

We acknowledge that Alternative A does contain open area at the northwestern end of the lease in an attempt by the developer, not BOEM, to deconflict with the squid fishery that operates in the area. We do appreciate and acknowledge this attempt by the developer to accommodate squid fishing activity within their design parameter while maintaining their desired number of turbines. However, as BOEM is well aware, since it possesses confidential electronic chart data from over 20 commercial squid vessels that we submitted to the agency before the WEA was identified as leased, that the vessel activity in that area begins outside of the lease, traverses through the lease, and ends outside the lease. It will not be possible to follow bottom contours for effective harvest and maintain these tows. To do so would require operating vessel gear towed in between the 0.65 nm spacing of turbines, which spacing is less due to scour protection, and over cables on the edges of the lease area, risking getting hung up, while entering the TSS. Gear is towed well behind the vessel and is likely to hang up on infrastructure that would appear well away from the vessel itself.

Alternative B, which would remove 6 turbines at the northwest end of the lease area would be preferable to having those turbines exist; however, it is uncertain what impacts any new developer proposal due to problematic sediment discovery will have on this, as well as other, Alternatives. As BOEM has only to date analyzed Alternatives that fulfill the developer's proposals and desired number of turbines, we request that BOEM also analyze Alternatives that do not meet the developer's desired number of turbines but which would fully and partially deconflict with the fisheries operating in the area, including those areas analyzed in Options 1-3 of the 2016 Director's memo. Such reasonable range of analysis and Alternatives is necessary for the "balanced" decision making that BOEM describes in M-Opinion 37067, "to determine the appropriate balance between two or more goals that conflict or are otherwise in tension." Without Alternatives representing such a range, this purported balance cannot be analyzed or considered.

Fisheries Data: We request that BOEM cease using multispecies FMP data as a measure of impact to specific fisheries and fisheries stakeholders within that FMP. When an FMP, such as the sea scallop fishery, has only one species associated with the FMP, using FMP revenue or metrics is appropriate as it can be attributed to one fishery. For the Mackerel/Squid/Butterfish FMP, however, the FMP covers two species of squid, two species of mackerel, and butterfish, all of which are associated with different permits (i.e., a vessel may have one squid permit but not another) and different fishing grounds. Therefore, using the FMP as a whole will dilute impacts to a particular fishery/permit. We request that BOEM update the DEIS with this information, which is necessary to analyzing impacts on the summer longfin squid fishery in particular. We also request that BOEM include fisheries activity/revenue estimates that occur adjacent to the lease in these impacts, due to the nature mobile bottom tending gear of activity described above and as depicted in the confidential fisheries data submitted to BOEM prior to the area ID and lease of the NY WEA/Empire Wind lease. For tows that begin outside of the lease area and traverse through the lease area, the entire tow will be lost should the project be approved. Therefore, all that associated and connected fishing activity must be included in analysis.

BOEM Conclusions Regarding Cumulative Fisheries Impacts: While we agree with BOEM that cumulative fisheries impacts will result in “major adverse impact because some commercial fisheries [including the squid fishery] and fishing operations would experience substantial long-term disruptions” from both the proposed project and planned offshore wind activities elsewhere, we object to the conflation of the No Action and Cumulative Impacts Alternatives as stated above. We also object to BOEM’s assumption and assertion that this rating of “major” incorporates climate change and fisheries management actions, in both the No Action and Cumulative Impacts sections, as these water down the impact of BOEM’s direct actions. Climate change has been assessed by the Northeast Fisheries Science Center as positive for the squid resource, rather than negative, and the squid fishery is a most impacted fishery by the proposed project.²⁰ Therefore, the impact to the squid fishery will be significant and BOEM cannot blame climate change for the impacts of its own action. This contradicts science. It also cannot blame fisheries management, which is outside the scope of its authority, for the consequences of its own action.

Navigational Safety Risk Assessment: We continue to raise the issue that having the developer of a project conduct the sole Navigational Safety Risk Assessment relied upon by both BOEM and the USCG is unacceptable as it involves a clear conflict of interest. We request therefore that the USCG conduct its own Navigational Safety Risk Assessment for the project, including a full radar modeling study akin to the USCG Cape Wind study²¹ which uses the size turbine projected for the Empire Wind projects as well as documented vessel traffic in the area, and a full impact assessment on the search and rescue (SAR) capabilities of the USCG resulting from marine radar interference on USCG vessels and loss of HF radar coverage.

Contrary to BOEM’s assertion on page 1-6 of the DEIS, which quotes OSCLA’s various provisions that require the Secretary to ensure while conducting offshore wind leasing activity and claims that this

²⁰ See Hare et al, “A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast US Continental Shelf”, [A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf | PLOS ONE](#), Feb 2016.

²¹ See Appendix M to the Cape Wind Energy Project Final EIS, January 2009. Submitted to the United States Coast Guard, December 16, 2008; USCG Order #HSCG24-08-F-16A248 Cape Wind Radar Study .

provision imposes a general duty on the Secretary but not one that would “require the Secretary to ensure that the goals are achieved to a particular degree”, the actual law states that the Secretary “shall ensure” that any activity conducted is carried out in a manner that provides for these things, including safety. Safety cannot be compromised, as human life is on the line. “Sort of safe” and “a little safe” is not safe.

In our EA comments on the Empire Wind lease, attached for reference, we highlighted the safety issues at hand, including the fact that BOEM not only ignored but specifically rejected the USCG recommendation for a 2nm setback from the TSS when defining the lease boundaries,²² due to BOEM’s desire to “ensure that lessees have sufficient flexibility to microsite a project within their lease areas”.²³ However, BOEM’s priority was, in the words of BOEM Director Hopper, to be a “history maker” with the NY WEA, rather than a responsible steward of human and natural life.²⁴

Attached is a letter dated November 25, 2019 to the Senator V. Susan Sosnowski of the RI Senate Fisheries Task Force regarding USCG analysis and own vessel capabilities with regards to offshore wind. The USCG clearly states that its own vessels will be subject to the impacts discussed in the 2013 DOE Final Report entitled *Assessment of Offshore Wind Farm Effects on Sea Surface, Subsurface and Airborne Electronic Systems*²⁵ which has also been recently confirmed and cited by the BOEM-sponsored National Academies of Sciences (NAS) study “Wind Turbine Generator Impacts to Marine Vessel Radar (2022)”.²⁶ USCG are equipped with the same type of Marine Vessel Radar (MVR) as commercial fishing vessels, as discussed in the NAS study, which found no immediate solution to the MVR interference issue. Therefore, not only will commercial fishing vessels experience radar interference as a result of offshore wind projects; so will USCG vessels attempting to conduct search and rescue (SAR). Most SAR occurs in inclement weather, when maximized and unimpeded radar signals will be necessary.

BOEM has also ignored for years the impacts to HF radar resulting from offshore wind development. In fact, this issue was first raised to BOEM in 2014 as a NOAA response to the NY Call Area, now proposed Empire Wind project.²⁷ Subsequently, in 2020, BOEM was party to a DOE webinar series that highlighted the fact that the issue not only impacted USCG SAR operations, but also that it was very much still unsolved.²⁸ BOEM not only ignored this input, as well as subsequent related

²² See USCG letter to BOEM regarding the NY Area ID, September 28, 2015, attached.

²³ See EA at [NY-Public-EA-June-2016.pdf \(boem.gov\)](#), p. 2-3 and 2-4, in BOEM’s explanation for rejecting a 2 nm setback from the TSS.

²⁴ See our comments on the Empire Wind NOI, p. 3, regarding Director Hopper’s statement at the April 28, 2016 NY Task Force meeting.

²⁵ Final Report DE-EE0005380 Assessment of Offshore Wind Farm Effects on Sea Surface, Subsurface and Airborne Electronic Systems, The University of Texas at Austin, prepared for the U.S. Department of Energy, 9/30/2013.

²⁶ “Wind Turbine Generator Impacts to Marine Vessel Radar (2022), National Academies Press, available at <https://nap.nationalacademies.org/catalog/26430/wind-turbine-generator-impacts-to-marine-vessel-radar>. See BOEM sponsorship at page ii: “This activity was supported by contracts between the National Academy of Sciences and Bureau of Ocean Energy Management under Award Number 140M0119D0001/140M0121F0013. National Academies of Sciences, Engineering, and Medicine. 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26430>.”

²⁷ See July 14, 2014 letter from Zdenka Willis, Director US IOOS Program Office to BOEM Re BOEM Dockets BOEM-2014-0087 and BOEM-2014-0003, attached.

²⁸ See [Offshore Wind Turbine Radar Interference Mitigation Webinar Series | Department of Energy](#), July 27, 2020 Oceanographic High Frequency (HF) Radar Webinar.

concerns by the commercial fishing industry, but it did nothing to solve the problem from then until now, almost 10 years later. Therefore, BOEM cannot approve the Empire Wind project and claim that it has addressed an issue that it has been well aware of for nearly 10 years, when OSCLA requires safety at every point along the way of offshore wind leasing.

MVR radar interference onboard USCG vessels, combined with lack of HF radar to pinpoint search locations, will undoubtedly impact the effectiveness of USCG SAR. Therefore, we request that prior to any COP approval or Empire Wind Final EIS, the USCG conduct a radar interference modeling study as well as SAR assessment that incorporates MVR interference/loss to its own vessels, and HF radar /interference loss for SAR techniques, to determine the impacts to effective SAR, and therefore safety per the OSCLA, resulting from the Empire Wind project in an independent Navigational Safety Risk Assessment.

Mitigation: Appendix H of the DEIS contains mitigation measures for various project impacts. However, we have questions and concerns as to various mitigation measures, detailed below.

- (1) The Compensation for lost fishing income (#15, p. H-23) is described as “The lessee shall implement a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM’s draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 or as modified in response to public comment” with BOEM and BSEE as the enforcement agencies. This is problematic for several reasons.
 - (a) First, the compensation plan does not exist and the DEIS contains no details, so we cannot comment on it or assess its adequacy. Please release a Supplemental EIS containing a full description of the plan, funding levels and mechanisms, how it is to be administered, and the application process.
 - (b) Secondly, BOEM has not yet completed its Draft Guidance for Fisheries Compensation nor responded to extensive fishing industry comments on this Draft. The public still does not know what the Final Guidance will look like, whether it incorporates and addresses our concerns, or even if this or the state’s current RFI for fisheries compensation is outside of their legal authorities. Seafreeze documented significant concerns with the BOEM Draft, which can be found here: <https://www.regulations.gov/comment/BOEM-2022-0033-0088> and here <https://www.regulations.gov/comment/BOEM-2022-0033-0090>. As impacts to shoreside businesses and valuation estimates for both shoreside businesses and fisheries themselves were incorrectly estimated and derived in the Draft, we have serious concerns that this will be the case in the Final document. However, either way, we currently do not know the status of that document and cannot effectively comment on this DEIS mitigation measure per NEPA. This is concerning particularly considering that the DEIS itself estimates impacts to fisheries to be “major”: “BOEM expects that the impacts resulting from the Proposed Action would be moderate to major for commercial fisheries...”²⁹ Therefore, without detailed information of the proposed compensation plan and related as of now non-existent and non-enforceable fisheries compensation guidance, we are precluded from providing input on this measure, yet are being faced with major impacts as a result of the Empire Wind project. We request that a detailed compensation plan, as well as detailed Final Guidance

²⁹ DEIS, p. 3.9-60.

document, be provided to stakeholders for public comment prior to development of a Final EIS for the Empire Wind project.

- (c) Thirdly, BOEM has repeatedly stated that it cannot require compensation and as such all compensation is “voluntary” at the discretion of developers. It is unclear then how BOEM can claim to be an “enforcement” agency of a proposed compensation plan when it repeatedly has stated it does not have the legal authority to require compensation. If it does not have the legal authority to require compensation it cannot have the authority to enforce such compensation. Please explain.
- (2) The Navigation Safety Adaptation Fund (#16, p. H-23) is described “Empire will establish an adaptation fund to equip vessel operators with necessary safety training and equipment, including suitable marine vessel radar, where appropriate” and is to be overseen by BOEM and BSEE. It is first unclear whether BOEM/BSEE have the expertise necessary to determine adequacy of such measures. It is also clear from the BOEM-sponsored NAS study that both current magnetron radar and Doppler/solid-state radar experience interference from offshore wind turbines; however, there is lack of information on Doppler/solid state radar performance in the vicinity of turbines, with more study needed. It is unclear then how BOEM defines “suitable marine vessel radar” in this mitigation measure. Please explain. If future studies show that Doppler/solid state MVR still cannot be fully optimized in a wind turbine environment, please explain what course of action BOEM will take in response. Please also explain how proceeding without this knowledge/verification, but with the knowledge that the two types of MVR available are affected by offshore wind turbines, complies with the OSLA requirements for safety and navigation particularly since the Empire Wind project is projected to be operational and impacting mariners prior to future studies being complete.
- (3) The High-frequency radar mitigation (#18, p. H-24) described as “Empire must develop a mitigation plan, to be reviewed and coordinated with the NOAA IOOS Surface Currents Program Manager, for purposes of implementing measures that correct for wind turbine interference. Measures would include sharing real time telemetry of surface currents, waves, and other oceanographic data with the Surface Currents Program into the public domain, measured at locations in the Project confirmed by the Surface Currents Program and its high-frequency radar operators as sufficient to allow NOAA IOOS mission objectives to be met” does not indicate if this mitigation will be effective by the time of proposed project commissioning and operation. The 2020 DOE webinar series, held jointly with BOEM, on offshore wind turbine radar interference, detailed clearly the extreme loss of HF radar in the Empire Wind lease area from both that lease and other NY/NJ leases, and the impact this will have on USCG SAR.³⁰ Since that time, BOEM has issued more leases in the NY Bight. It is uncertain whether effective mitigation at this stage exists for HF radar, as there will be very little ocean space unaffected by one or more leases at this time and leases continue to proliferate. In 2019, as detailed in our comments on the Vineyard Wind SEIS, the “High Frequency Radar Wind Turbine Interference Community Working Group Report” stated that “For small numbers of turbines, pathways to mitigate the interference exist. Yet, the offshore wind industry will soon outpace these simplified solutions as plans for large farms of turbines are moving towards installation. This near-future scenario greatly exceeds the

³⁰ See <https://www.energy.gov/sites/prod/files/2020/07/f77/offshore-wind-turbine-radar-interference-mitigation-webinar-7-27-2020.pdf>, slide 30.

scope of initial efforts and at present no operational solutions exist to mitigate the future interference.”³¹ As we are unaware of any comprehensive advances made on this issue since 2019, and since offshore wind has continued to expand since 2019, it would appear that the situation has grown more severe and not less so. This is concerning for maritime stakeholders who may be in need of USCG SAR. Please explain what provable, effective, and operational solutions are guaranteed by the time BOEM projects Empire Wind to be operational.

At this time, absent the required information requested in the comments above, including a evaluation and analysis of Alternatives consistent with Options 1-3 of the 2016 BOEM Director’s Memo to reduce conflicts with the squid fishery, we can only support the No Action Alternative. Thank you for the opportunity to comment.

Sincerely,
Meghan Lapp
Fisheries Liaison
Seafreeze Shoreside, Seafreeze Ltd.

³¹ See ““High Frequency Radar Wind Turbine Interference Community Working Group Report” June 2019 at https://darchive.mblwhoilibrary.org/bitstream/handle/1912/25127/HFRadar_2019_WindTurbineInterference_WorkingGroupReport_Final2.pdf?sequence=1&isAllowed=y , p. 2.



January 17, 2023

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

Re: Draft Environmental Impact Statement for Empire Wind Project off New York

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 Empire Wind 1 and Empire Wind 2 projects offshore of New York. The two projects, collectively referred to as “the project” in the DEIS, will be electrically isolated and independent from each other. Combined, they may contain up to 147 wind turbines, 2 offshore substations (one for each project), and 2 cable routes (one for each project). Wind turbine generators would be spaced at least 0.65 nautical miles apart.

The DEIS analyzes the potential environmental impacts of nine alternatives, including a no action alternative, the project as described in the Constructions and Operations Plan (COP) submitted by the developer (i.e., the proposed action), and five alternatives to the proposed action. After considering comments received through this comment period, BOEM will publish a final environmental impact statement (FEIS). The FEIS will inform BOEM’s decision to approve, approve with modifications, or disapprove the COP.

The Mid-Atlantic Council manages commercial and recreational fisheries for more than 65 marine species¹ in federal waters and is composed of members from the coastal states of New York to North Carolina (including Pennsylvania). 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. 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 the Mid-Atlantic and New England, including within the Empire 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.

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.

The analysis in the DEIS has important ramifications for the terms and conditions that may be implemented through final project approval, including fisheries mitigation and compensation measures. With this in mind, we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils, and 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 from NOAA Fisheries for this project, including their recommendations for data considerations, impacts analysis, and ways to minimize potential negative impacts to 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 for the associated projects.
- Clarify which alternatives can be combined.
- Provide more details on the technological considerations relevant for Alternative F and clarify if Alternatives A, B, and E are technologically feasible.
- Clarify if Alternative F is currently preferred by the project developer, and if so, update the COP to reflect this and include another opportunity for the public to comment given the focus of the DEIS is on Alternative A as the proposed action.
- Group the turbine and cable layout alternatives by project (Empire Wind 1 and Empire Wind 2) to evaluate each project individually and then in combination.
- Analyze the impacts of all action alternatives in detail, not just the proposed action.
- Under No Action, compare to both scenarios, i.e., where all other wind projects are constructed and where no other projects are constructed.
- Expand the 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

Section 1.2 of the DEIS (Purpose and Need of the Proposed Action) notes that it is a goal of the Empire Wind 1 and 2 project developer to meet the existing state energy procurements for these projects. However, the procured amount of energy is not referenced in statements which use the terms “purpose” or “need.” This is an important nuance because the National Environmental Policy Act requires consideration of a range of alternatives which could meet the defined purpose and need. We expressed concern that DEIS documents for other wind projects (e.g., Revolution Wind) implied that only alternatives which would generate the full procured amount of electricity could meet the purpose and need. This could limit BOEM’s ability to reduce the potential negative impacts of the project by considering approval of a smaller project than that proposed by the developer.

We suggest that this FEIS and future NEPA documents more clearly indicate that the agency is not bound to consider approval only of projects that can produce a certain level of electricity (e.g., the amount procured by the state(s) via the power purchase agreement(s)). 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 may approve

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

a project smaller than what is 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 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 eight action alternatives, some of which include sub-alternatives.

- Alternative A is the proposed action as described in the COP and includes:
 - Up to 147 wind turbine generators on monopile foundations (up to 57 for Empire Wind 1 and up to 90 for Empire Wind 2),
 - Up to two offshore substations (one for each project) with piled jacket foundations,
 - Up to 260 nautical miles of interarray cables buried to a target depth of 6 feet, and
 - Up to two export cables (one for each project) with a combined total length of up to 66 nautical miles and buried to a target depth of 6 feet, with deeper burial (15 feet) in federally maintained areas such as anchorages and navigation channels.
- Alternative B would remove up to six potential wind turbine locations from the northwest end of the Empire Wind 1 project area to reduce potential impacts at the edge of Cholera Bank (an important fishing area) and on scenic resources and navigation safety. Based on the layout maps provided, we assume Alternative B would allow for the same maximum number of turbines as Alternatives A and E; however, this is not explicitly stated in the DEIS text.
- Alternative C includes two mutually exclusive sub-alternatives for the locations of the Empire Wind 1 export cable route. Under Alternative C-1, the route would traverse a charted anchorage area. Under Alternative C-2, the route would traverse the Ambrose Navigation Channel.
- Under Alternative D, the export cable routes for Empire Wind 2 would avoid the sand borrow area off Long Island.
- Alternative E would remove seven potential wind turbine locations from Empire Wind 2 to create a one nautical mile setback from Empire Wind 1 to improve access for fishing and navigation. Based on the layout maps provided, we assume that Alternative E would allow for the same maximum number of turbines as Alternatives A and B; however, this is not explicitly stated in the DEIS text.
- Under Alternative F, the turbine locations for Empire Wind 1 would be modified to address geotechnical considerations. The maximum number of turbines for Empire Wind 1 would be reduced from 57 to 54
- Under Alternative G, the onshore cable crossing of Barnums Channel would be a cable bridge crossing constructed using trenchless technology.
- Alternative H would use dredge or fill methods for the Empire Wind 1 export cable landfall location that are aimed at reducing the discharge of dredged material.

We assume that unless otherwise stated in the DEIS, none of the alternatives are mutually exclusive. However, this is not clearly and explicitly stated in the DEIS. For example, it should be made clear if Alternatives B and E could be combined. Based on the maps provided, we assume that Alternative F cannot be combined with Alternatives B or E; however, this is not explicitly stated.

The FEIS should more clearly indicate that 15-MW turbines will be used under each alternative, based on the project developer's preferred supplier agreement with Vestas. This should be explicitly stated in

the executive summary, the descriptions of each alternative, and the impacts sections because impacts can vary based on the size of the turbines. The turbine size is acknowledged in other sections of the DEIS; however, it is not clearly stated in the descriptions of each alternative. This is relevant for determining the number of turbines which could be used under each alternative to meet the existing energy procurements for each project. Overall, we support consideration of higher MW turbines because they 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. As previously stated, BOEM should not be bound to only consider approval of projects which can meet existing procurements, especially when only one turbine size is presented as an option. However, this is still relevant information to consider for each alternative.

A minimum turbine spacing of 0.65 nautical miles is indicated for Alternative A but is not specified for the other alternatives. We assume the other alternatives use this same minimum spacing; however, this should be clarified. BOEM should also explain why options for wider spacing were not considered. There are navigational safety concerns with closer spacing, as noted in the DEIS, and several projects in the Massachusetts/Rhode Island Wind Energy Areas have set a precedent by adopting a 1 x 1 nautical mile spacing. If a 0.65 nautical mile spacing is required to meet the existing energy procurements, then this is another example of the problematic restrictions that existing procurements place on BOEM when developing alternatives to minimize negative impacts.

It is our understanding that the aim of the modified layout under Alternative F is to avoid the mineral glauconite, which was detected during geotechnical surveys of the Empire Wind 1 project area. However, these details are not stated in the DEIS. The DEIS does not make it clear why special geotechnical considerations are needed for Alternative F but not the other alternatives. It is also our understanding that Alternative F may be preferred by the project developer at this time, despite the fact that Alternative A is identified in the DEIS as the proposed action and is the focus of the COP and impact analyses. If Alternative F is in fact preferred, the COP should be modified to reflect that this is the new proposed action, and it should be described as such in the FEIS.

It is concerning that the description of Alternative F implies that Alternatives A, B, and E may not be technologically feasible given that under Alternative F there would be “modifications for environmental and technical considerations.” Based on the level of detail provided in the DEIS, it is not possible for us to discern if this is an accurate interpretation. If this is the case, it is very concerning that the DEIS would analyze alternatives that are not technologically feasible. We do not understand how a project that is not feasible can be considered a reasonable alternative, as required by NEPA, since it cannot meet the purpose and need. This limits the range of options available to reduce the negative impacts of the project, is confusing to readers of the DEIS, and poses challenges for informed public comment on the DEIS. Readers may focus their time and comments on the proposed action due to limited resources. We suggest that BOEM publish more details on the nature of the technological concerns addressed by Alternative F and the feasibility of the other alternatives. BOEM should then allow for additional public comments based on this additional information.

It is also not clear if the Empire Wind 2 project area has been surveyed to the same extent as Empire Wind 1 and if these same geotechnical challenges may later arise for the Empire Wind 2 project area. All of these concerns highlight challenges with the environmental review process for offshore wind energy projects to date. Geotechnical and geophysical survey work should be completed before

finalizing the COP to inform the DEIS and before finalizing the alternatives analyzed in the DEIS. This can help ensure that all alternatives considered in the DEIS are technologically feasible.

The organization of the offshore export cable alternatives is also confusing. Alternative D is focused on Empire Wind 2, while Alternatives C and H only include analyses for Empire Wind 1. We recommend grouping the turbine and cable layout alternatives by project to evaluate each project individually and then in combination. This type of organization is included within Appendix O but not in the main DEIS document.

Affected Environment and Impacts Analysis

Given workload constraints, including multiple currently open comment periods on offshore wind projects in our region, we are unable to thoroughly review the affected environment section and impacts analysis in the DEIS. We urge BOEM to seriously consider the recommendations and advice of NOAA fisheries regarding the impacts analysis, including the most appropriate data to use, how to consider impacts for data-poor fisheries, and the resulting impacts conclusions.

We are concerned that the DEIS did not analyze in detail the impacts of each alternative and the cumulative impacts from these alternatives. The impacts analysis and the cumulative impact analysis focus on the proposed action alternative (i.e., Alternative A), which, as we understand it, may no longer be preferred by the developer and may no longer be a technologically viable option. The impacts for all impact producing factors should be both qualitatively and quantitatively described for each individual alternative and compared against the no action alternative given this information will be used to determine necessary minimization, mitigation, and compensation measures. For example, Section 3.9.6 includes the impact analysis of Alternatives B, E, and F combined into one section and without specific, detailed information as was provided for the proposed action. The impacts of these alternatives should be differentiated in much greater detail than what is included in Section 3.9.10 such that tradeoffs can be accurately described and commented on by the public. If additional impacts of Alternatives B, E, and F are included elsewhere in an appendix then a cross reference should be provided. In the DEIS, it is unclear how and to what extent the impacts of Alternative F, for example, differ between the proposed action as it pertains to which fisheries and species will be most impacted.

Regarding 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 F). As we understand it, the DEIS has two baseline conditions, one with other planned, but not yet approved, wind projects and one without. The alternatives should be compared against both sets of conditions in a consistent way to better describe the expected magnitude of project's impacts.

Regarding fisheries impacts, we have the following concerns:

- Figures 3.9-14 through 3.9-23 and Table 3.9-31 include average 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. Fisheries revenues can fluctuate for a variety of reasons (warming waters, change in fishing regulations, etc.), therefore, an average value may not always accurately describe the economic value of the fishery.

- Figures 3.9-14 through 3.9-23 use data that are a minimum of ten years old (2007-2012). These data should be updated to the latest available data to better reflect recent fishing information and should match other data provided in the DEIS.
- The comparisons being made in the fisheries tables (e.g., Volume 1, Table 3.9-10) are somewhat confusing to track. Some are within the lease area only, and some are relative to the fishery overall. More detailed table captions and column headers would be useful, in addition to explaining the tables in the body of the EIS.
- Impacts to private recreational anglers are not included in the main body of the DEIS but are included in Appendix G (Assessment of Resources with Minor (or Lower) Adverse Impacts). This analysis should be expanded upon and should more clearly describe the data limitations for private recreational fishing. For example, data are not available to determine the amount of private recreational fishing effort that takes place within the lease area and the export cable corridor routes because those data are not collected. The FEIS should evaluate impacts to this user group using qualitative methods and quantitatively to the extent possible.

Hydrodynamic effects and disturbances on benthic resources are included in the DEIS, however, not to the extent that they are likely to occur. For example, the presence of structures could impact the Mid-Atlantic Cold Pool regarding changes in temperature, mixing, larval transport of important commercial and recreational fish species (e.g., sea scallops), and temperature corridors used for migration for multiple important fishery species. This is an area of ongoing research.³ 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 consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects throughout the region.

We are also concerned about the impacts of boulder removals required for cable installation, especially when done via plow. The DEIS indicates that the site preparation activities and cable installation could be done by jet plow, mechanical plow, or mechanical trenching in one section of the document (page 3.10-25) and in another section (page 3.21-13), jetting is listed as the primary method and dredging is yet another option. The FEIS should specify which installation techniques will be used and, if done via plow, the plow width and the size of the area that will be impacted should also be clearly stated. The nature of the impact from plowing 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.

Recommendations for Preferred Alternatives

As previously stated, it is not clear which alternatives can be combined. This is problematic as combining multiple alternatives could help reduce the potential for negative impacts to fisheries, habitats, and navigation, all of which are of concern to our Councils.

³ For example, two recent 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

We support a combination of the following alternatives:

- **Alternative B** to reduce impacts to Cholera Bank, an important fishing area containing sensitive hard bottom habitats.
- **Alternative E** to improve navigation safety for fisheries and other ocean users by creating a 1 nautical mile set back between Empire Wind 1 and Empire Wind 2.
- **Alternative H** to reduce the environmental impacts of dredge or fill activities.

Mitigation, Terms and Conditions

Mitigation measures are necessary to reduce the potential negative impacts of the Empire Wind 1 and 2 projects. 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.⁴ 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.

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. For example, time of year restrictions on construction can be used to protect sensitive spawning and fishing periods. The Councils are supportive of time of year restrictions to reduce potential impacts to sensitive life stages of fishery species and to reduce impacts to fisheries; however, further detail should be provided in the FEIS on how this would be done and what exactly this measure would achieve. "Installation of scour protection, as needed" and "where feasible, planning the location and timing of construction activities that minimize overlap with areas or times of high activity" are also listed as mitigation measures (Table H-3), though it is not clear when scour protection would be needed or not or what constitutes areas of high fishing activity. Overall, we recommend working with NOAA Fisheries on these determinations and identification of sensitive spawning and fishing periods to avoid as ways to mitigate impact.

The EIS notes that "BOEM expects the industry to adopt both technological and non-technology-based measures to reduce impacts on marine radar, including greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watchstanders, and simply avoiding wind farms altogether (Volume 1, page 3.16-13)." 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 fisheries and others navigating through and around the project area. An adaptation fund is noted in Appendix H. Additional information about the size of the fund and how extensively it may support funding and training would be helpful. Additional details about the overall fisheries mitigation and compensation fund would also be useful. It is difficult to assess the extent to which such funds might mitigate the impacts described in the DEIS without more information.

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

⁴ Available at <https://www.mafmc.org/correspondence>.

surface. While UXO is a known ongoing risk to mariners, offshore wind project construction activities can uncover UXO devices. We recommend that the terms and conditions specify that developers are responsible for the safe disposal of UXO unearthed 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.

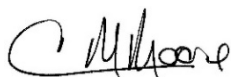
We recommend developing a clear strategy for boulder relocation that is protective of habitats in the area, potentially relocating them to soft bottom directly adjacent to existing hard bottom areas. Mobile gear fishing activity should be considered when planning specific placement options; relocation 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. Plowing will have a much larger impact on benthic habitats as compared to grabs. Recreational fishermen often fish on boulder habitats. We recommend that 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 Submerged Aquatic Vegetation (SAV) and other structured habitats throughout the entire project areas, including along the cable route. 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 a Habitat Area of Particular Concern (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.

Conclusion

We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the final EIS for Empire 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,



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



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

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