United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Decision Memorandum

To: Amanda Lefton
Director, Bureau of Ocean Energy Management

From: Karen Baker
KAREN BAKER Digitally signed by KAREN BAKER Date: 2022.08.12 10:27:14 -04'00'
Chief, Office of Renewable Energy Programs

Subject: Gulf of Maine Request for Competitive Interest (RFCI)

1. Purpose

This memorandum is in response to the State of Maine's submission of an unsolicited research lease request on October 1, 2021, and documents the analysis and rationale used to develop a recommendation to issue a RFCI to determine whether there is competitive interest in the area proposed by the State of Maine for a research lease. This recommendation includes identification of the RFCI Area, as well as research attributes that would be required to be included with indications of competitive interest. This document also serves to identify conflicts between the recommended RFCI Area and existing ocean users.

2. Decision Summary

As described in Table 1 and depicted in Figure 1, the recommended RFCI Area for the Gulf of Maine consists of 68,320 acres. The Bureau of Ocean Energy Management (BOEM) will consider issuance of no more than one lease within the RFCI Area (either research or commercial), and that lease area will neither exceed 10,000 acres nor support more than 12 floating wind turbine generators (WTGs) due to potential conflicts of use that have been identified by the U.S. Coast Guard (USCG) in locating Maine's proposed project in proximity to the existing Traffic Separation Scheme (TSS), as further discussed in Section 4.1 of this memorandum.

Table 1: Gulf of Maine RFCI Descriptive Statistics

	Acres	*Installation Capacity (MW)*[1]	*Homes Powered*[2]	*Max Depth (meters [m])*	*Min Depth (m)*	*Closest Distance to Shore (nautical mile [nm])*	*Closest Distance to Mainland (nm)*	*Furthest Distance to Shore (nm)*	*Furthest Distance to Mainland (nm)*
RFCI Area	68,320	144	50,400	189	137	19	22	30	35

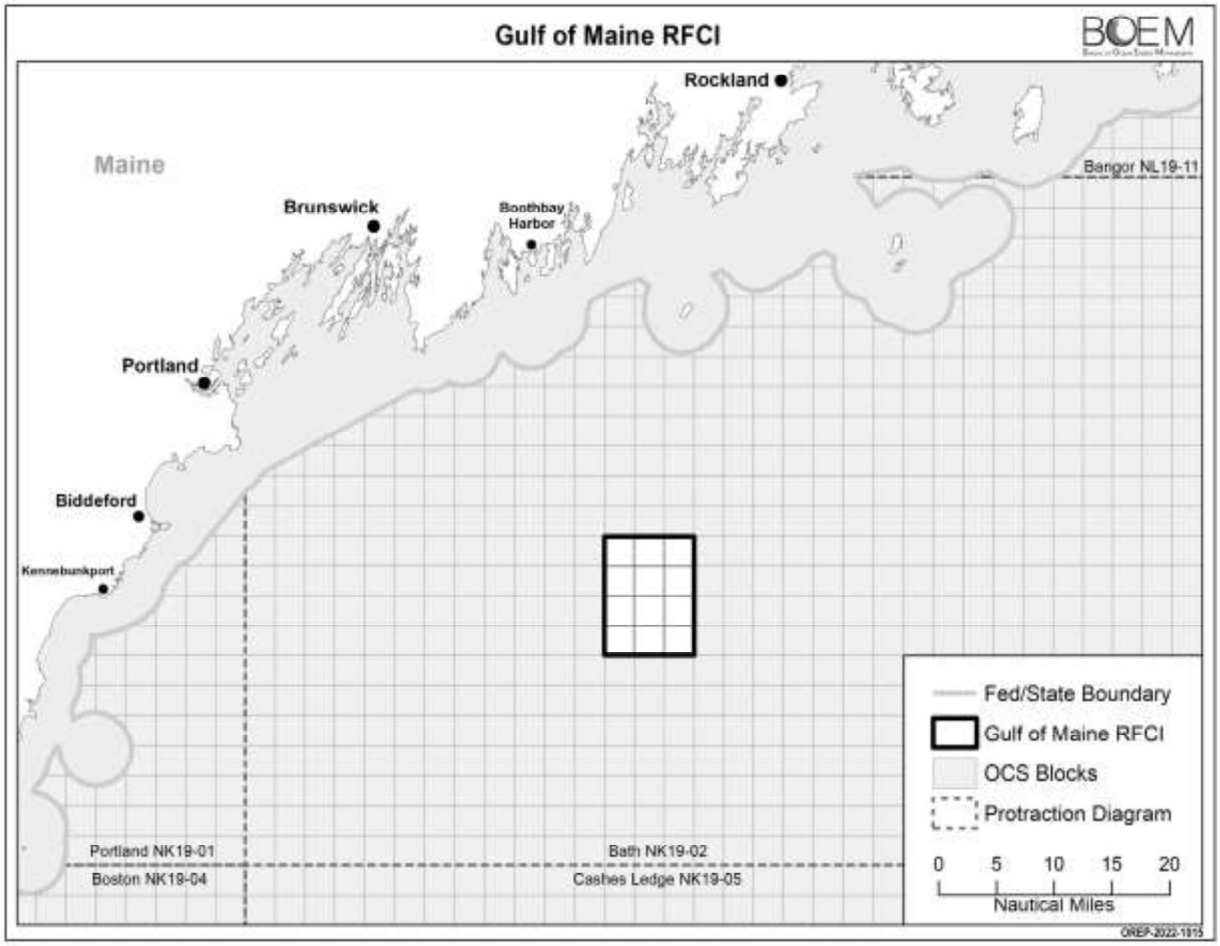

Figure 1: Gulf of Maine Request for Competitive Interest Area

[1] On June 22, 2021, Governor Mills of Maine signed Legislative Document (L.D.) 336, which directs the Maine Public Utilities Commission to work with the utilities to negotiate a power purchase agreement for up to 144 megawatts (MW) from the Research Array. Therefore, in their research lease application, the State of Maine stated that the Research Array would produce no more than 144 MW. BOEM is not setting a cap on the MW produced on a lease resulting from the RFCI; however, BOEM is capping the total number of turbines at 12 and the lease acreage at 10,000 acres. Based on the conservative calculation of 3MW/sqkm, 10,000 acres could generate ~121 MW.

[2] Based upon 350 homes per MW

3. Legal Standard

Pursuant to subsection 8(p)(1)(C) of the Outer Continental Shelf Lands Act (OCSLA), the Secretary of the Interior (the Secretary), in consultation with the USCG and other relevant Federal agencies, may grant a lease, easement, or right-of-way on the Outer Continental Shelf (OCS) for activities that produce or support production of energy from sources other than oil and gas (43 U.S.C. § 1337(p)(1)(C)). The Secretary must ensure that activities under this subsection are carried out in a manner that provides for 12 goals, including safety, protection of the environment, and consideration of other uses of the sea or seabed. Id. § 1337(p)(4)(A)–(L). These goals must be balanced, as there may be conflict or tension among the goals enumerated. The Secretary retains wide discretion to weigh those goals as an application of her technical expertise and policy judgment. See *Secretary's Duties under Subsection 8(p)(4) of the Outer Continental Shelf Lands Act When Authorizing Activities on the Outer Continental Shelf* (April 9, 2021).[3] The Minerals Management Service (BOEM's predecessor agency) issued regulations governing the leasing process and management of offshore renewable energy projects. *See* 74 Fed. Reg. 19,638 (April 29, 2009); see also 30 C.F.R. part 585.

In addition to identifying recommendations on the location and size of the RFCI area and substance of required research attributes, this memorandum documents BOEM's consideration of OCSLA's environmental factors and multiple uses at the RFCI stage of its leasing process (43 U.S.C. § 1337(p)(4) and (7)), as explained further in Section 5.2 below. The development of the RFCI is not the final stage of decision-making under § 1337(p). Issuance of a renewable energy lease, which authorizes only the submittal of plans for BOEM's review and potential approval, does not constitute an irretrievable and irreversible commitment of resources. BOEM will conduct further analysis under OCSLA, the National Environmental Policy Act (NEPA) and associated consultations if and when a Construction and Operations Plan (COP) or Research Activities Plan (RAP) is submitted. See Section 6 for a description of the environmental review process.

3.1 *Request for Competitive Interest*

As set forth more fully below, BOEM has decided that responses to the RFCI will be evaluated according to the following general parameters:

- Responses must be complete, i.e., contain all of the detailed information prescribed in the RFCI.
- Responses expressing interest in potential commercial development in the same area that Maine nominated would preempt the proposal for a research lease.[4] Therefore, if BOEM receives only one viable proposal for commercial leasing, BOEM may determine that no competitive interest exists and inform the

[3] https://www.doi.gov/sites/doi.gov/files/m-37067.pdf

[4] "We believe that such research areas should not preempt potential commercial development and should be only offered to a Federal agency or a state if there is no competitive interest." 74 Fed. Reg. 19,638, 19,671.

respondent and ask if it wishes to proceed with acquiring a commercial lease.[5] If BOEM decides to issue the commercial lease, the request for the research lease would be rejected.

- If BOEM receives at least two viable proposals for commercial leasing, BOEM would determine that competitive interest exists and may proceed with the competitive leasing process in lieu of issuing the research lease.
- If BOEM receives no proposals for commercial development, BOEM would determine there is no competitive interest and may proceed with issuing the research lease if it's otherwise satisfactory to BOEM.

4. Background

On October 1, 2021, BOEM received an application from the State of Maine's Governor's Office of Policy Innovation and the Future for a renewable energy research lease ("Research Array") on the OCS offshore the coast of Maine, pursuant to 30 CFR 585.238. The application includes an area of approximately 9,700 acres located more than 20 nm offshore and would consist of up to 12 floating offshore wind turbines. As stated in the application, the objective of the Research Array is to arrive at a set of informed best practices and standards for commercial-scale floating offshore wind projects in the Gulf of Maine to utilize in planning, permitting, and constructing commercial-scale projects in a fashion that optimizes coexistence with traditional marine users and the ecosystem.

4.1 *U.S. Coast Guard Conflict and Expansion of the RFCI Area*

In evaluating the research lease application and through coordination with Federal agencies, OREP staff learned of a conflict between the location of the proposed Research Array and the existing TSS for maritime traffic entering and exiting the port of Portland (Maine). Specifically, a letter from the USCG dated July 27, 2021, referred to feedback provided to the State of Maine on several occasions that the Research Array location, even though it is 5 nm from the entrance of the TSS (per the Marine Planning Guidelines), would be directly in the line of traffic, which USCG described as "highly not advisable" (Figure 2) (Appendix A). USCG suggested placing the Research Array outside of the direct line of traffic and provided alternative locations to minimize the conflict.

[5] *See* § 585.232, which provides a process for issuing a lease noncompetitively when a party submits an area of interest for a possible lease in response to a Request for Interest or Call for Information and Nominations and BOEM receives no competing submissions.

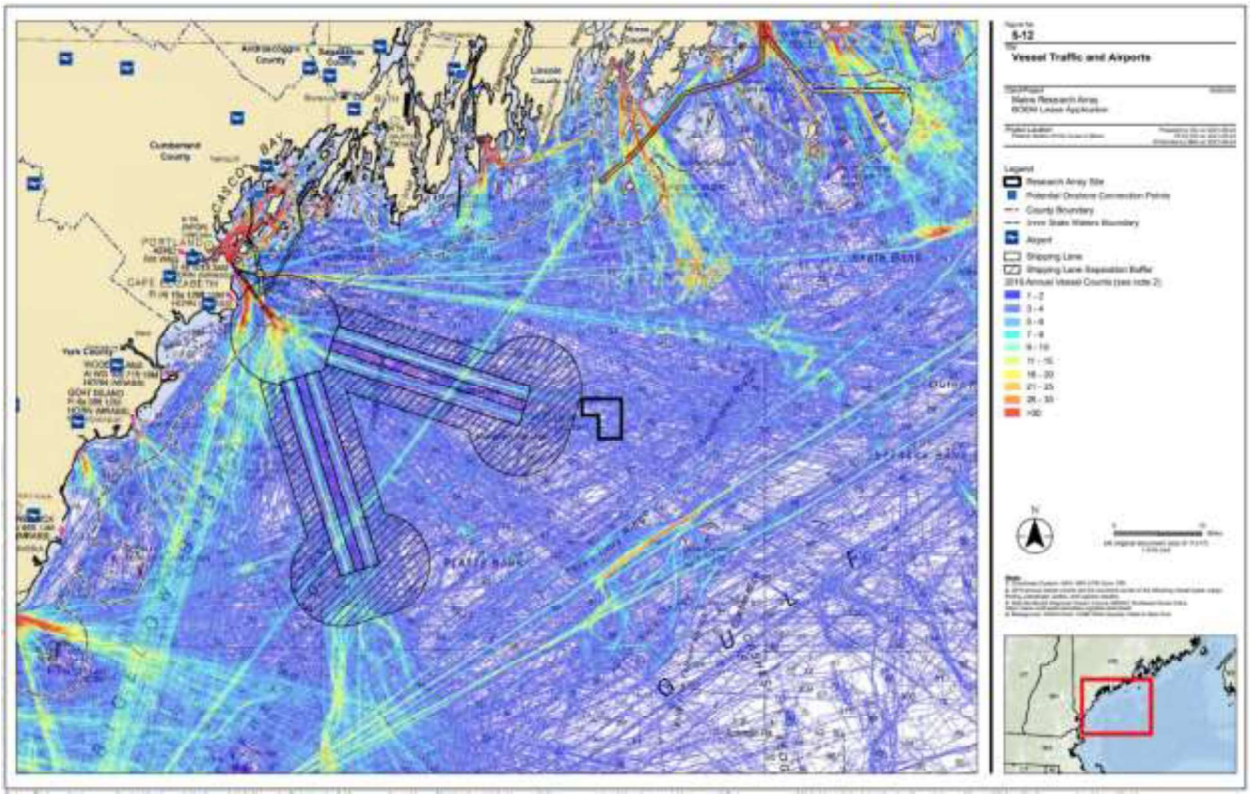

Figure 2: Vessel Traffic Analysis from the State of Maine's Research Lease Application, October 2021

Therefore, on May 23, 2022, the Office of Renewable Energy Programs (OREP) sent a letter to the State of Maine inquiring about the state's interest in acquiring a research lease within an RFCI area that expands the area requested for the Research Array to include the OCS lease blocks that intersect with the State of Maine's previously identified Narrowed Area of Interest (AOI)[6] (Figure 3Figure 1). This expansion of the RFCI area allows for the consideration of indications of interest that would avoid or minimize the potential conflict with the TSS. This RFCI area also provides BOEM the flexibility to address any other potential conflicts that may be identified in the future that would result in areas of the RFCI not being suitable for leasing. In a letter dated June 7, 2022, the State of Maine responded affirmatively, and while they maintain a strong preference for the area identified in their unsolicited application, they expressed interest in acquiring a lease elsewhere in the RFCI area should BOEM determine that their preferred location is unsuitable for a research lease. See *Appendix B – BOEM Correspondence with the State of Maine Regarding RFCI Area*.

[6] Over the course of approximately one year, the State of Maine completed a site identification process that progressed through three stages. Through spatial analysis and stakeholder engagement, Maine began with Area of Interest (770 square miles), winnowed that to a Narrowed Area of Interest (54 square miles), and then identified its preferred site for the Research Array (15.2 square miles).

In analyzing the expanded RFCI area, BOEM has determined that likely only one project, approximately the size of the State of Maine's research lease proposal (i.e., no more than 10,000 acres and no more than 12 WTGs) could be accommodated while avoiding or minimizing adverse effects on the TSS, and while allowing siting flexibility to avoid other potential conflicts of use that may arise during BOEM's suitability analysis, described below (e.g., commercial fishing activity, sensitive benthic habitat).

If, following the RFCI comment period, BOEM determines there is no competitive interest, BOEM will conduct a suitability analysis on the proposed project area prior to determining whether to issue a lease (either research or commercial). The suitability analysis will analyze all potential conflicts with the location of the proposed project (including, but not limited to: navigation, commercial and recreational fishing, protected species and habitat, compatibility with the Department of Defense's mission, and archaeological, historic, and/or cultural resource sites). However, if BOEM determines that competitive interest exists, BOEM's suitability analysis on whether to issue a commercial lease may be incorporated into the competitive commercial leasing process (see Section 5.2).

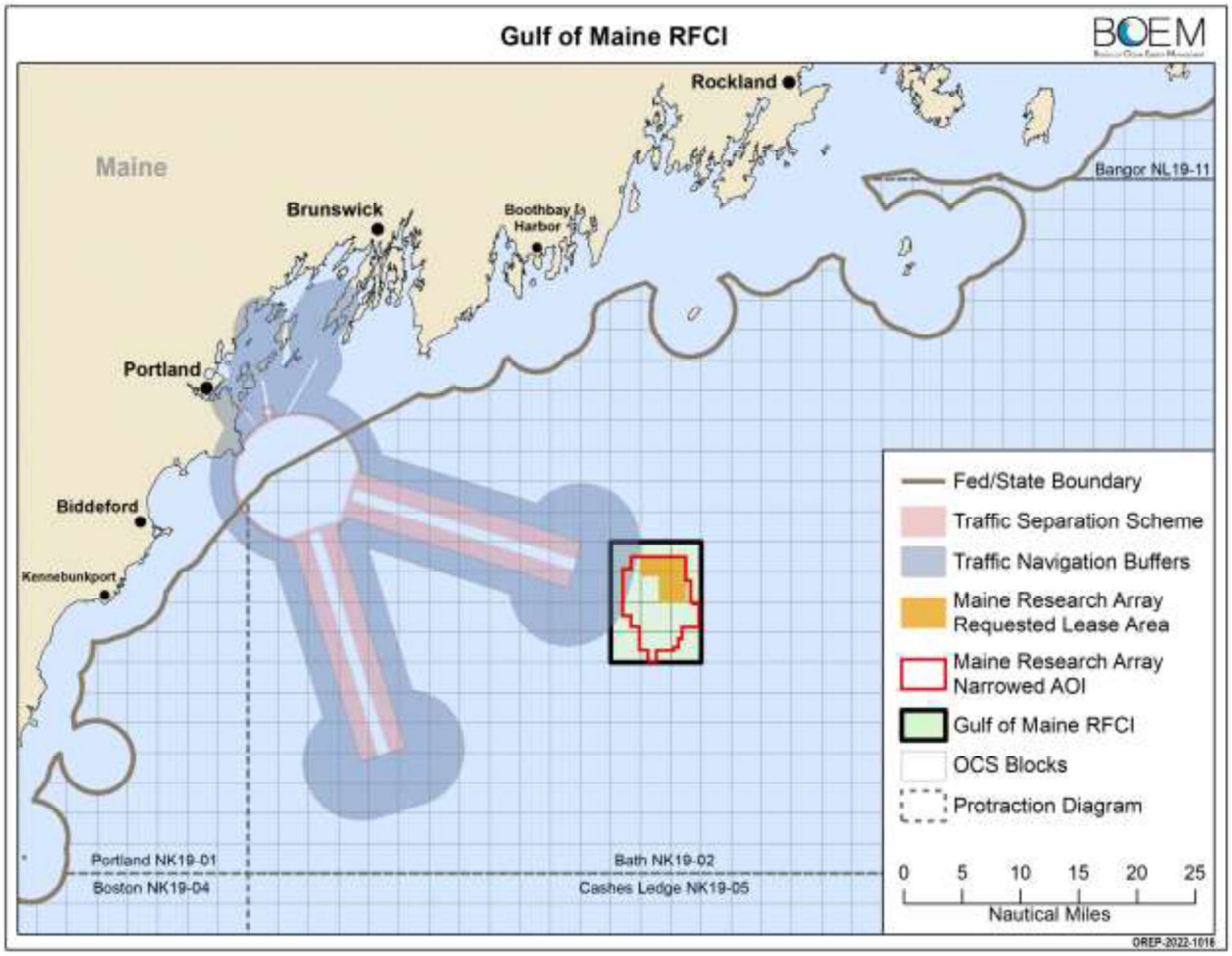

Figure 3: Request for Competitive Interest Area with Maine's Requested Research Lease Area and Narrowed Area of Interest

5. Request for Competitive Interest Approach

5.1 *Required Information for Indication of Competitive Interest - Limitations*
In soliciting indications of interest in acquiring a commercial lease within the RFCI area, OREP recommends limiting nominations to projects that meet the following criteria:

1) Lease size: no larger than 10,000 acres;
2) Installation capacity: no more than 12 WTGs;
3) WTG foundation: floating; and
4) Conceptual Research Framework for evaluating how the proposed project will interact with, affect, and/or study: human dimensions, ecosystem and the environment, and technology development.

5) The limitation on lease size and number of WTGs is in line with past BOEM practice (e.g., the RFCI for the Commonwealth of Virginia, Department of Mines, Minerals, and Energy Research Application, 78 Fed. Reg. 45,965), and is justified by the need to minimize the potential conflicts with navigation, outlined above (Section 4.1). The limitation to floating WTGs is both a product of the technological and economic limitations of the water depths in the RFCI area (i.e., 137 meters (m) is the minimum depth in the RFCI area; 60 m is typically considered as the approximate maximum depth for fixed foundations), as well as the value BOEM places on research on the deployment of this new technology in the Gulf of Maine and similar deepwater areas. Lastly, the justification for requiring indications of interest to include a conceptual research framework is described below, in Section 5.2.

5.2 *Research Framework Requirement*

OREP recommends requiring that indications of interest in acquiring a commercial lease include a conceptual Research Framework that describes an approach to addressing several research priorities that OREP believes are important to the development, sustainability, and management of the offshore wind industry in the Gulf of Maine, as well as to inform floating offshore wind development and management elsewhere on the OCS (e.g., there is potential for floating offshore wind development in the following areas: Central Atlantic, Gulf of Mexico, and Pacific). While it would be possible to pursue similar research activities in other OCS regions, the submission of the research application from the State of Maine (i.e., an assurance that there is at least one party interested in conducting the research) in advance of BOEM's upcoming leasing schedule—which will feature several deepwater areas requiring floating wind foundations—supports BOEM's need for the information that would be obtained from the conceptual Research Framework for this RFCI area. Indications of interest would also be required to include a statement informing BOEM of a party's willingness to execute a lease instrument with the research attributes described in the conceptual Research Framework if the interested party is awarded a lease as part of this process (competitively or noncompetitively). The inclusion of the Research Framework requirement is warranted and within BOEM's authority because of: a) the characteristics of the Gulf of Maine; and b) the research priorities being aligned with OCSLA's required considerations for developing a lease sale (43 U.S.C. § 1337(p)(4) and (7)). See subsections 5.2.1 and 5.2.2 below.

If BOEM were to forgo the Research Framework requirement and competitive interest is expressed, research-related lease stipulations could later be included as part of a Proposed Sale Notice for public comment and eventual inclusion in final leases; however, the inclusion of the Research Framework requirement at the RFCI stage is a more transparent approach that clearly demonstrates to industry, from the process' inception, that BOEM prioritizes these research objectives for this area. BOEM recognizes that the Research Framework requirement may reduce bids in a competitive sale scenario due to the investment necessary to complete the research

criteria; however, OCSLA does not require that lease revenues be maximized at the expense of other BOEM priorities, such as collecting and leveraging valuable information (e.g., optimal technological and economic approaches to floating offshore wind development, as well as the impacts and interactions of floating offshore wind with existing ocean users and the marine environment) to inform future leasing and development activities on the OCS. In 2021, the Solicitor issued formal legal guidance to the Secretary, recognizing that "subsection 8(p)(4) of OCSLA and similar statutes require only that the Secretary strike a rational balance between Congress's enumerated goals, i.e., a variety of uses. In making this determination, the Secretary retains wide discretion to weigh those goals as an application of her technical expertise and policy judgment." DOI, M-37067, Secretary's Duties under Subsection 8(p)(4) of OCSLA When Authorizing Activities on the OCS (April 9, 2021).

If, in response to the RFCI, BOEM determines that competitive interest exists, it may proceed with the competitive leasing process for the RFCI Area, and BOEM may include the RFCI Area as part of the commercial leasing process for the Gulf of Maine. A Request for Interest, seeking commercial interest and other relevant information within a larger area of the Gulf of Maine, is being issued concurrently with this RFCI. Therefore, the RFCI Area may become part of the Call for Information and Nominations for the Gulf of Maine. In that scenario, leases may be issued elsewhere in the Gulf of Maine concurrently with a lease within the RFCI area that contains a requirement to execute the Research Framework (this requirement would only apply to a lease within the RFCI area). While the research would not be completed in time to inform all phases of project development in other Gulf of Maine lease areas offered in 2024, BOEM still believes the Research Framework is valuable, as reports would have the potential to inform best practices related to engagement, minimizing user conflicts, monitoring, etc. Once identified, these best practices could inform the future issuance of deepwater wind leases in the Gulf of Maine, Central Atlantic, Gulf of Mexico, and Pacific. While BOEM has not yet released a leasing plan beyond 2024, most of the nearshore areas on the Atlantic coast suitable for fixed foundations have already been leased; therefore, BOEM expects the majority of Atlantic wind leasing activities beyond 2025 to require floating foundations[7] (this is also true for any additional leasing activity offshore the Pacific coast). These future leasing efforts would benefit greatly from the outcomes and best practices identified from the research carried out in the RFCI area (whether it is completed by the State of Maine under a research lease, or by another entity as part of a commercial lease). These benefits would include, but not be limited to: data to inform conflict avoidance in the siting of future wind energy areas (e.g., better understanding the degree of compatibility between floating offshore wind structures and certain fishing gears, maritime traffic, etc.); NEPA analyses (e.g., alternatives development, quality of analyses, and the efficiency of completing those documents by the use of incorporation by reference); and project

[7] For example, see the New York state announcement (2022) for a Master Plan 2.0 to focus on deepwater areas to support floating offshore wind development: https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan ."

design criteria to improve monitoring and minimize adverse effects on marine and avian species.

5.2.1 Characteristics of the Gulf of Maine

Considered together, a combination of unique socioeconomic, bathymetric, and ecological characteristics indicate that the Gulf of Maine is an ideal area in which to require a Research Framework. Those characteristics include, but are not limited to:

- The Gulf of Maine consists predominantly of water depths that exceed the technical and economic viability of traditional fixed-bottom foundations for wind energy facilities and will, in most instances, require floating foundations. Maine's project is the first one in the Atlantic OCS to propose a floating array and, therefore, is an ideal candidate for research and comparison to projects with bottom-founded turbines.
- Climate change, particularly ocean warming, is progressing in the Gulf of Maine at a nearly unparalleled rate compared to the rest of the global ocean.[8] In addition to ecosystem changes, climate change will also result in changes to many aspects of the fishing industry (e.g., target species, gear types, fishing grounds).
- The North Atlantic right whale (NARW) is critically endangered with the latest estimates predicting that fewer than 350 remain. As a result of the region's importance as feeding grounds for the NARW, the National Marine Fisheries Service expanded NARW critical habitat in 2016 to include almost the entire Gulf of Maine (81 Fed. Reg. 4837), including the RFCI area. Therefore, the Gulf of Maine is an ideal area in which to study the co-existence of the NARW and floating wind turbines.
- The lobster fishery (in terms of the gear, shear volume, and cultural importance) is becoming unique to the Gulf of Maine, as the fishery has all but disappeared in southern New England.

The Research Framework requirement will help to ensure that future offshore wind development in the Gulf of Maine is informed with the best available science, which in turn supports the responsible development of the Gulf of Maine as well as other areas of the OCS through avoidance and minimization of adverse consequences for the region's ecosystem and coastal communities (see Section 5.2.2 below).

[8] Sea surface temperatures in the Gulf of Maine are increasing faster than 99% of the global ocean (Pershing et al. 2015), with 2021 being the hottest year on record (GMRI 2022)

5.2.2 Research Framework's Connection to Outer Continental Shelf Lands Act

The requirement to include a Research Framework as part of an indication of competitive interest is justified because BOEM believes that the research attributes described in the Framework, if pursued, are not only in line with OCSLA's goals, but allow BOEM to pursue them more fully. Specifically, the inclusion of a Research Framework advances the following goals set forth in 43 U.S.C. § 1337(p)(4).

Protection of the Environment (43 U.S.C. § 1337(p)(4)(B)

All three major themes of the Research Framework (Human Dimensions, Ecosystem and the Environment, Technology Development) include research priorities that would improve protection of the physical, biological, and human environment. The Human Dimensions theme is focused on: a) impacts to existing ocean users (e.g., fisheries, maritime industry) and how various approaches to a proposed offshore wind project layout could facilitate coexistence with existing users and minimize adverse effects; and b) socioeconomic impacts, including potential negative consequences (e.g., displacement of existing ocean users, effects on viewshed), as well as economic opportunities created from infrastructure and supply chain development. The Ecosystem and Environment theme is focused on how different phases of a wind project interact with habitat and the behavior and life cycles of animals in the area, with the goal of avoiding or minimizing adverse effects. Lastly, the Technology Development theme has several requirements to explore research on platform, anchoring, and monitoring technologies and materials that minimize environmental impacts.

Conservation of the natural resources of the Outer Continental Shelf (43 U.S.C.
§ 1337(p)(4)(D)

Inclusion of a Research Framework requirement will contribute to the spatial and temporal efficiency of future leasing efforts within the Gulf of Maine and elsewhere on the OCS. For example, research topics under the Technology Development theme may result in findings that minimize the footprint and ocean user conflicts of floating WTGs. On the temporal side, research findings have the potential to enhance baseline knowledge of the effects of floating wind technology, which could create efficiencies within BOEM's environmental review processes.

Prevention of interference with reasonable uses (43 U.S.C. § 1337(p)(4)(I)
As noted above, research, especially with respect to the coexistence of fisheries and maritime traffic, will set a solid foundation for future leasing activities that will be designed to avoid and otherwise minimize conflicts with existing ocean users. For example, the Research Framework must include an approach to studying how disruptions to existing vessel traffic in the area could be avoided or minimized through wind turbine layout design, micrositing, and the use of different anchor and mooring systems. The Framework must also describe an approach to evaluating the compatibility of a proposed project and various Gulf of Maine fisheries and gear types.

In addition, including a conceptual Research Framework as a condition of an indication of interest is consistent with 43 U.S.C. §1337(p)(7), coordination and consultation with affected state and local governments. The State of Maine has identified a clear priority for advancing its research lease application, as articulated in L.D. 336,[9] which states that the Research Array (as well as advancing a contract with the developer New England Aqua Ventus and a power purchase agreement (PPA) with the Maine Public Utilities Commission) is in the public interest and consistent with state policy.[10] If BOEM issues a research lease to the State of Maine, BOEM will not charge any fees for the purpose
of ensuring a fair return for the use of such research areas on the OCS.[11] L.D. 336 instructs the Maine Public Utilities Commission to negotiate a long-term contract (at least 20 years) with New England Aqua Ventus or its designated affiliate 9 months after receiving a petition. However, L.D. 336 also has guardrails in place to limit profitability and to prioritize the research proposed by the State. L.D. 336:

- Directs "the parties to determine the lowest reasonable cost to ratepayers, that is sufficient to enable the financing, construction and operation of the Research Array …";[12] and
- Provides that the Commission would direct New England Aqua Ventus or its affiliate to "operate, at the direction of the State, an open platform for research on the prudent

[9] An Act to Encourage Research to Support the Maine Offshore Wind Industry, L.D. 336, 130th Leg., 1st Spec. Sess. (Me. 2021).
[10] *Id.*
[11] 30 C.F.R. § 585.238(g).
[12] L.D. 336, § 3(1)(C) (130th Legis. 2021).

> development of offshore wind energy generation in the Gulf of Maine."[13]

BOEM recognizes that the Research Array exceeds the size and capacity of one of the commercial projects previously approved (i.e., South Fork Wind); however, for purposes of this RFCI, BOEM has determined that a Research Lease is appropriate in the event that the RFCI results in a determination of no competitive interest: Maine's proposal encompasses fundamental research questions that cannot be addressed by a small project with only one or two turbines. For example, the Array of up to 12 turbines allows for the consideration of multiple turbine configurations (orientation and spacing) to optimize co-existence with commercial and recreational fisheries, and to minimize adverse effects to marine and avian resources.

Moreover, based on the information before it, BOEM has concluded that the PPA is merely a means to facilitate the research attributes of Maine's proposed lease. In order to construct the Array, the State of Maine required private partnership with New England Aqua Ventus, and New England Aqua Ventus requires financing through a PPA to construct and operate the Array.[14]

While BOEM agrees with the importance of many of the research goals in Maine's application, the Bureau must assess competitive commercial interest in the area designated in the application through an RFCI. The inclusion of the Research Framework in the RFCI ensures that certain research priorities are carried forward, either through a research lease issued to Maine or as a commercial lease, and is an effort to coordinate with the affected state's policy.

OREP identified those initiatives in Maine's research proposal, as well as any additional research and data needs, that are recommended to be required as part of a Research Framework submitted with indications of interest resulting from the RFCI. To inform these recommended requirements, subject matter experts within OREP's Engineering and Technical Review Branch, Environment Branch for Renewable Energy, and Renewable Energy Policy Group, as well as Regional Renewable Energy Divisions (i.e., GOMR, PACR) and the Division of Environmental Sciences, reviewed Maine's research lease application, and put forward recommendations for research criteria that should be included in the Research Framework to facilitate orderly and expeditious development of floating offshore wind on the OCS. OREP solicited and received a similar review and recommendations

[13] Id.§ 3(2)(C).
[14] Id. § 2(9).

from the Department of Energy's Wind Energy Technologies Office. OREP incorporated the majority of these recommendations into the requested attributes of the Research Framework in the RFCI. *See Appendix C – Research Framework Section to be Included in RFCI.* Entities submitting indications of competitive interest in response to the RFCI must also include a statement committing to conduct the research described in the conceptual Research Framework should they be awarded a lease competitively or noncompetitively.

6. Environmental Review

Prior to issuing any lease competitively or noncompetitively, BOEM would prepare an environmental assessment (EA) and conduct Tribal consultations to consider potential environmental consequences of associated site characterization activities (e.g., biological, archaeological, geological, and geophysical surveys and core samples) and site assessment activities (e.g., installation of meteorological buoys). If BOEM determines that there is no competitive interest in the RFCI area, BOEM would prepare an EA focused on the RFCI area. This research leasing EA would take at least six months to prepare and would be initiated upon BOEM's determination of no competitive interest. If, through the EA process, BOEM determines that an environmental impact statement is not necessary, the earliest that a research lease could be issued would likely be 1st quarter 2023. If, in response to the RFCI, BOEM decides to move forward with the competitive lease issuance process, a commercial leasing EA would be prepared. This EA would take up to one year and would be initiated with the identification of wind energy areas (i.e., conclusion of the Area ID process).

Regardless of competitive interest, BOEM would conduct a separate NEPA review and associated Tribal consultations on any proposed construction, operations, maintenance, and conceptual decommissioning activities before deciding whether to approve, disapprove, or approve with modifications the RAP associated with the research lease or a COP proposed pursuant to a commercial lease.

7. Director Decision

☑ Issue an RFCI **that requires** indications of interest in a commercial wind energy lease to include the conceptual Research Framework detailed in Appendix C to this memorandum.

☐ Issue an RFCI **that does not require** indications of interest in a commercial wind energy lease to include the conceptual Research Framework detailed in Appendix C to this memorandum.

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Amanda Lefton
Director, Bureau of Ocean Energy Management

Date

Appendices

Appendix A: USCG Feedback on State of Maine Research Lease Area

Appendix B: BOEM Correspondence with the State of Maine Regarding RFCI Area

Appendix C: Conceptual Research Framework included in RFCI

U.S. Department of Homeland Security

United States Coast Guard

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16670
July 27, 2021

Governor's Energy Office
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To Whom It May Concern:

The U.S. Coast Guard (USCG) offers this feedback on the Gulf of Maine Floating Offshore Wind Research Array Preferred Site (Research Array) that the Governor's Energy Office (GEO) announced on July 12, 2021. We appreciate the opportunity to be involved early in the siting process of any offshore wind project to ensure impacts to navigation safety and USCG missions are mitigated as much as possible.

As mentioned in the July 2021 Pre-application Siting and Stakeholder Summary, staff members of the USCG were consulted about the project and provided informal feedback. This feedback included reviewing the Marine Planning Guidelines (MPG) that were developed during the Atlantic Coast Port Access Route Study (ACPARS) as well as contacting marine transportation system users who historically transit the proposed Area of Interest (AOI). The MPG are not regulatory, but should be considered alongside other stakeholder feedback to avoid interfering with traditional waterway use. Additionally, each site is considered on a case by case basis. Thus, the guidance provided in the MPG (*e.g.,* 2 nautical miles (NM) from the edge and 5NM from the entrance of a Traffic Separation Scheme (TSS)) is recommended, but not mandatory.

In the case of the Research Array, traffic using the TSS arrives and departs in several different directions, including through the AOI. We provided feedback to the GEO on several informal calls that placing the project directly in the line of traffic, even 5NM beyond the TSS entrance, is highly not advisable. We offered alternative locations, such as placing the site on the southwestern side of the TSS.

We appreciate your efforts to speak with the Portland Pilots, however, they do not travel as far out as the proposed AOI. Maritime stakeholders that could be affected, transit not only to and from the ports of Maine, but also from Canada and across the Gulf of Maine to bring goods and services to the region. These include deep draft cargo vessels, tank vessels, passenger vessels and towing vessels. We recognize you conducted an initial analysis of traffic patterns using Automatic Information System (AIS) data, but recommend you conduct outreach with existing users of the TSS that currently travel in the proposed AOI to discuss potential conflicts. Further, it would be helpful if the GEO included the economic impact these vessels have on the state in siting the project.

Although you did not ask for feedback on the contents of the July 2021 Pre-application Siting and Stakeholder Summary, we offer the following for consideration:

- On Page 10, the document states the area of interest "provides ample sea room for a large vessel to maneuver." Floating wind turbines bring a new level of risk to vessels of all sizes, thus requiring evidence to support that statement. It is extremely important and beneficial that outreach be conducted to all relevant deep-draft stakeholders (nationally and internationally) that utilize this TSS to gain feedback on their perceived risk to this site location, and how their approaches and maneuvering will be impacted.

- On Page 14, you state that "navigational risk can be minimized," but have not yet conducted a Navigation Safety Risk Assessment per USCG guidance (NVIC 01-19[1]: Guidance On the Coast Guard's Roles And Responsibilities For Offshore Renewable Energy Installations).

- On Page 16, potential array configurations are discussed. Micrositing within any proposed arrays should be done in consultation with the USCG to help mitigate impacts to search and rescue and/or pollution response operations, as there are unknowns related to the floating wind turbine mooring configurations.

Thus, we recommend placing the research array outside of the direct line of traffic from the TSS. Additionally, we recommend convening a navigation workgroup meeting, similar to the one just held with fisheries and wildlife, with national and international deep-draft stakeholders who currently use the existing TSS. The focus of the workgroup should be to evaluate navigational concerns and clarify how vessels of various sizes will navigate safely around floating turbines.

As discussed in the informal meetings with the GEO staff, the USCG has several studies underway to supplement the ACPARS to assess the need for safe access routes to and from U.S. ports, which includes changes to existing or creating new routing measures. We are investigating the need to initiate a Gulf of Maine PARS based on this Research Array and the potential for other wind farms that could emerge in the near future. We are committed to working with the State of Maine and other maritime stakeholders to ensure all uses of the Gulf of Maine waterways are balanced, safe and secure. We welcome meeting again to discuss any alternatives the State of Maine may be considering.

We have forwarded to BOEM's Office of Renewable Energy Program a copy of this letter to provide early awareness to our concerns with the currently proposed Research Array. We hope this additional information is helpful to inform a final decision on a 16-square-mile site.

If you have any questions or would like to discuss further, please contact LT Shaun Doyle, Sector Northern New England's Waterways Management Division Chief. He may be reached at (207) 899-6291 or Shaun.T.Doyle@uscg.mil.

Sincerely,

A.E. Florentino CAPT

A.E. FLORENTINO, CAPT
Captain, U.S. Coast Guard
Captain of the Port

Copy: Bureau of Offshore Energy Management

[1] https://www.dco.uscg.mil/Our-Organization/NVIC/Year/2010/

United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Mr. Dan Burgess
Governor's Energy Office
State of Maine
181 State House Station
Augusta, Maine 04333-0181

Dear Mr. Burgess:

BOEM is currently drafting a Request for Competitive Interest (RFCI), the results of which BOEM will use to determine whether there is competitive interest in a commercial wind energy lease in the area the State of Maine (Maine) identified in its application for a research lease. In reviewing Maine's proposal, and in coordination with the U.S. Coast Guard (USCG), BOEM has identified a potential conflict with the requested research lease location. This potential conflict is outlined in a letter dated July 27, 2021, sent from USCG (Sector Northern New England) to the Governor's Energy Office (GEO). As the letter indicates, the area Maine requested adheres to the USCG Marine Planning Guidelines; however, it is in the direct line of traffic for vessels using the Traffic Separation Scheme (TSS) for the Port of Portland, Maine.

If after the public comment period for the RFCI, BOEM determines there is no competitive interest, we would conduct a suitability analysis to determine whether BOEM should issue a research lease in the area requested, which will involve an analysis of any potential conflicts of use. While we are not certain what the outcome of that suitability analysis would be, and have not made any decisions to that effect, it is possible that conflicts with the TSS could lead us to conclude that your preferred location is unsuitable for your research lease.

Therefore, BOEM is recommending an expanded RFCI area that would include the OCS blocks that intersect the "Narrowed Area of Interest" identified in an earlier phase of your research lease site identification process. This expanded RFCI area could allow additional flexibility for Maine to relocate the research lease in the event we conclude your preferred location is unsuitable. BOEM is hereby inquiring whether Maine would be interested in those OCS blocks.

We look forward to your response. Should you have questions or need further information, you may contact Zach Jylkka at (978) 491-7732 or zachary.jylkka@boem.gov.

Sincerely,

DAVID MACDUFFEE
Digitally signed by DAVID MACDUFFEE
Date: 2022.05.23 13:39:42 -04'00'

David T. MacDuffee
Chief, Projects and Coordination Branch
Office of Renewable Energy Programs

GOVERNOR'S OFFICE OF POLICY
INNOVATION AND THE FUTURE
181 STATE HOUSE STATION
AUGUSTA, ME 04333
HANNAH PINGREE, DIRECTOR

STATE OF MAINE

GOVERNOR'S ENERGY OFFICE
62 STATE HOUSE STATION
AUGUSTA, ME 04333
DAN BURGESS, DIRECTOR

June 7, 2022

David MacDuffee
Chief, Projects and Coordination Branch
Office of Renewable Energy Program
Bureau of Ocean Energy Management
U.S. Department of the Interior
Washington, DC 20240-0001

Dear Mr. MacDuffee:

This is in response to your May 23, 2022 letter, in which you recommend the State of Maine expand upon its proposed research lease area for the purposes of the Bureau of Ocean Energy Management's (BOEM) issuance of a Request for Commercial Interest (RFCI).

The State of Maine is seeking a research lease pursuant to 30 CFR § 585.238, which makes such leases only available to federal and state entities. We do not believe the RFCI approach is necessary. If BOEM elects to pursue this step, the State wishes to share the following perspectives.

The purpose of our research lease application is to advance a Floating Offshore Wind Research Array in the Gulf of Maine (Research Array). The Research Array is a key component of the State's climate and clean energy goals, and will provide important and necessary research, knowledge and experience to ensure the co-existence of floating offshore wind with existing ocean users, especially Maine's valuable fishing industry, and create additional economic opportunity for Maine.

As we heard from federal agencies and others during the May 19, 2022 Gulf of Maine Intergovernmental Task Force meeting, there is an urgent need to more deeply understand the potential impacts from floating offshore wind in the Gulf of Maine. This makes the Research Array a vital step for the State of Maine to research the effects from floating offshore wind and inform the responsible development of this important renewable energy source in Gulf of Maine and beyond.

The State of Maine's application for a 15.2-square-mile research lease, submitted in October 2021, was the product of an unprecedented process that included scientific analysis, significant stakeholder engagement, and discussions with federal and state agencies that took place for more than one year. The outcome of this process is the proposed research lease location, approximately 30 miles from the mainland coast.

As detailed in the application, this site was identified after consideration of Gulf of Maine commercial and recreational fisheries, wildlife, marine mammals, bathometry, known cultural resources, Department of Defense activities, navigation and safety considerations, project viability for a project of this scale, and interconnection. To inform its siting analysis, the State and partner entities collected and reviewed all existing data and held formal and informal discussions with stakeholders prior to identifying a proposed site.

In light of the extensive analysis and stakeholder input that shaped the State of Maine's Research Array proposal, and the urgency of conducting research into floating offshore wind in the Gulf of Maine, we urge BOEM to process our application as expeditiously as possible.

We also wish to address navigational safety, which is one of the most important considerations for siting an offshore energy project. Throughout the siting process for the Research Array, the Governor's Energy Office and Maine Department of Transportation analyzed vessel traffic in the proposed lease area, and consulted with the U.S. Coast Guard and known Maine shipping interests on multiple occasions.

The State's proposed site abides by all available Coast Guard guidance and during our stakeholder process, no objections were raised by navigational stakeholders. During the State's siting process we sought -- but did not receive – clear or specific guidance from the Coast Guard about necessary distances, levels of traffic, or other criteria above and beyond published guidance to consider in our siting analysis. The State's response was relayed to the Coast Guard in a September 21, 2021 letter, and further details are included in the vessel traffic summary portion of the State's application.

The State of Maine is committed to working with BOEM, the Coast Guard, other agencies, stakeholders and the public to ensure the Research Array siting minimizes impacts to existing ocean users to the greatest extent possible. However, given the extensive pre-submission analysis of siting considerations, we do not believe identification of a new site is necessary or appropriate at this time.

While we strongly prefer our proposed site for the research lease, based on your recommendation and if this is the only way to move forward without further delays, we are willing to allow BOEM to include the narrowed area of interest and intersecting Outer Continental Shelf lease blocks in its RFCI filing with the understanding that the size of the ultimate research lease will remain roughly the same. If BOEM does this, however, we would insist that BOEM engage the State of Maine in the research lease prior to making any determination on a research site within this broader area identified for BOEM's RFCI process.

Thank you for consideration of our application. To support our shared understanding of floating offshore wind in the Gulf of Maine, and seize upon an opportunity advance clean energy, fight climate change, and create jobs, it is our strong desire to see this application move ahead in an expeditious manner.

Sincerely,

Dan Burgess, Director
Governor's Energy Office

Hannah Pingree, Director
Governor's Office of Policy Innovation and the Future

This is an excerpt from the RFCI *Federal Register* notice: [Docket No. BOEM-2022-0041]

Required Information for Indication of Competitive Interest

If you intend to submit an indication of competitive interest for a commercial wind energy lease within the RFCI Area, you must provide the following:

(For required information 1-4 and 6-9, see the *Federal Register* notice)

5. A conceptual Research Framework – BOEM recognizes the value of research, including many of the research priorities outlined in the State of Maine's research lease application. BOEM believes that information generated from such research can be used to facilitate responsible and expeditious commercial offshore wind energy development in the Gulf of Maine, as well as the deployment of floating offshore wind technology nationwide (e.g., Pacific region). Therefore, BOEM is requesting that all indications of competitive interest in a commercial wind energy lease that is within the RFCI area include a conceptual Research Framework that describes an approach for addressing the representative research questions, topics, and priorities listed below. The conceptual Research Framework must contain sufficient detail to demonstrate an ability to design and carry out a project that addresses all of the questions and topics below (5 a-c), commensurate with the Research Framework Maine submitted to BOEM in Appendix A of its research lease application, (i.e., it must go beyond a simple commitment and provide a conceptual plan for exploring and answering the research questions and topics). You must also include a statement informing BOEM of your willingness to execute a lease instrument with research attributes, such as those described in the conceptual Research Framework, if you are awarded a commercial lease as a result of this RFCI (competitively or noncompetitively).

a. Human Dimensions, including but not limited to:

   i. Evaluation of impacts to fisheries - include a description of the proposed project that would allow for study of coexistence of the proposed project with existing ocean users. Specifically address in your approach how you would evaluate the compatibility of the proposed project with various Gulf of Maine fisheries and gear types;

   ii. Vessel traffic and navigation - include an approach to studying how disruptions to existing vessel traffic in the proposed project area could be avoided or minimized through wind turbine layout design, micrositing, the use of different anchor and mooring systems, etc.

   iii. Socioeconomic impacts to coastal communities - include a research approach for evaluating potential impacts from the proposed project to:

      1. shoreside infrastructure that supports existing ocean uses;
      2. viewsheds; and
      3. tourism.

   iv. Infrastructure, supply chain, and workforce development - include an approach for using the information generated by or for the proposed project to evaluate:

      1. workforce training and career transition requirements to allow local and state workers to take part in the assembly, fabrication, and installation of floating turbines in the Gulf of Maine long-term; and

2. port developments needed to support the proposed project, as well as larger industry development in the Gulf of Maine long-term (e.g., infrastructure to support serial manufacturing of key floating wind turbine components).

v. Proposed project cost information, including the levelized cost of energy, cost of major offshore wind components and floating wind installation costs. Analysis should include how costs compare to a project of similar size with traditional bottom foundations.

b. Ecosystem and Environment, including but not limited to:

i. The potential effects of different phases of the proposed project's development, construction, operation, and decommissioning on habitat and the behavior and life cycles of animals (e.g., target species of commercial and recreational fisheries, protected species) found within, and in proximity to, the proposed project area. Research should compare and evaluate how variations in turbine layout and technology deployment affect:

1. Changes in distribution and abundance of marine and avian species
2. Attraction of marine and avian species
3. Avoidance/displacement of marine and avian species
4. Collision with marine and avian species
5. Entanglement risk of marine mammals
6. Hydrodynamic effects
7. Entrainment and impingement of zooplankton

8. Sensitive habitat disturbance

c. Technology Development, including but not limited to:

i. Assessment of more than one type of floating foundation and consideration of which design(s) is (are):

1. Optimal for floating turbine foundation strength and stability for the intended installation and design life, considering all the possible loading conditions and other factors such as fatigue, corrosion, and marine biofouling under the meteorological ocean conditions of the area;
2. Scalable for larger turbines;
3. Readily transitioned to serial manufacturing;
4. Optimal for coexistence with other ocean users; and
5. Optimal for minimizing adverse effects to marine species and their habitat.

ii. Evaluation of different anchoring and mooring designs and materials, and assessment of which designs and/or materials:

1. Are optimal for coexistence with ocean users;
2. Are optimal for minimizing adverse effects to marine species and their habitat; and
3. Perform optimally in stress analyses with regard to strength, durability, fatigue, offsets, corrosion, and mooring line redundancy. Performance evaluation should also assess ability to

mitigate and minimize interference with other structures, considering varying depths, wave, current and tidal amplitudes.

iii. Assessment of design and testing of floating turbine control systems.

iv. Assessment of subsea cables, both inter-array and export, and which designs and/or materials are optimal for:

    1. Performance with respect to function, sufficient strength and fatigue resistance against loads from wave, current, soil conditions, vessel motions, etc.; and
    2. Availability and resiliency of dynamic transmission cables, as well as required maintenance and options for monitoring.

v. Assessment of available monitoring technologies to detect and study required maintenance of the main components (e.g., wind turbine, floating turbine foundation, mooring and cables, fisheries impacts, interactions with protected species, etc.).