

Appendix E

Elements of the Environmental Mitigation Plan

As stated in Section 2.2.8 of the RFP, the Proposer must submit as part of its Proposal an Environmental Mitigation Plan (“Plan”). The Environmental Mitigation Plan should detail, to the extent practical, specific measures the Proposer will take to avoid, minimize, and/or mitigate potential environmental impacts of the proposed Project in the categories identified below. Where specific measures are not proposed for a specific category of impact, the Environmental Mitigation Plan must describe how the Proposer will work with the State, federal agencies, and other stakeholders to define avoidance, minimization, and mitigation measures. The Plan should provide a roadmap for the environmental work to come and provide a degree of certainty that the Proposer is committed to working collaboratively with stakeholders to develop a cost-effective and environmentally responsible Project.

The mitigation hierarchy should be an organizing principle of the Environmental Mitigation Plan. More specifically, the mitigation hierarchy can help Projects prepare for impacts and aim to achieve no net loss of biodiversity. It involves a sequence of actions to anticipate and *avoid* impacts on biodiversity and ecosystem services; where avoidance is not possible, to *minimize* such impacts; when impacts are predicted to occur notwithstanding the implementation of practical avoidance and mitigation measures, to rehabilitate or *restore* ecosystems; and where significant residual impacts are predicted to remain, *offset* such impacts. The Plan must account for potential adverse impacts of all phases and components of a Project, including pre-construction surveys, construction, operation, and, to the extent practical, decommissioning; and including turbines, cables, substations and, if applicable, collector platforms.

While this RFP allows for flexibility to Proposers in devising avoidance, minimization, and restoration/offset measures, some specific measures that will be required of all Projects are identified and must be included in the Proposer’s Plan.

Required elements of the Plan are set forth below.

E.1 Environmental Mitigation Plan Summary

The Proposer must briefly present its philosophy and approach to avoiding, minimizing, restoring and offsetting the potential environmental impacts of the proposed Project and how the Proposer will use research, data and stakeholder feedback to support decision making with respect to site design, construction, operations and decommissioning.

E.2 Communications and Collaboration

The *New York State Offshore Wind Master Plan*, the *New York State Public Service Commission Order Establishing Offshore Wind Standard Framework for Phase 1 Procurement* (the “Order”), and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Further, the Order requires Proposers to work with the State-supported Environmental Technical Working Group (“E-TWG”). Many other stakeholders are engaged in offshore wind energy development. The Proposer must describe how it will identify stakeholders relevant to environmental issues and describe how the Proposer intends to communicate with those stakeholders during survey work, and

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design, construction, operation and decommissioning of the Project. This description must account for communications with members of the E-TWG and consultations with New York State agencies during the various Project phases.

E.3 Environmental Monitoring and Research Pre-, During- and Post-Construction

Environmental research and peer-reviewed publication of research findings is key to advancing the scientific knowledge of how offshore wind energy development might affect marine ecosystems and wildlife. Proposers are encouraged to publish their own work in scientific journals and to coordinate with scientists and regulators interested in investigating environmental and wind energy-related scientific questions.

Because offshore wind energy development is in early stages in the US, there is little empirical information as to the effects such development may have on ecological communities specific to the New York Bight. Transparency in new research and peer reviewed publication of results bring higher value, allowing others to build on that work. Thoughtfully planned, designed and implemented pre-, during- and post-construction monitoring and research to understand wildlife responses and potential effects from development is key for adaptive management. Further, multiple regional sites working together and coordinating monitoring and research in a consistent manner would bring additional value to the scientific understanding of how development of offshore wind energy is affecting regional resources.

The Proposer must (to the extent possible at this stage) describe how, for large whales (particularly the North Atlantic right whale), other marine mammals, sea turtles, birds, bats, fish and invertebrates, it plans to conduct scientifically sound, statistically rigorous studies to accomplish the following:

1. Establish baseline data on the presence of these types of wildlife within the area of the proposed Project (including areas where Project-related vessels would travel to reach the Project area);
2. Assess and quantify (to the extent practical) changes attributable to Project activities; and
3. Monitor for impacts on these types of wildlife during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

In the event that these activities cannot be clearly defined at this stage, the Proposer must describe how it will approach these questions and data gaps.

The Proposer must describe how it plans to make environmental data available in accordance with Section 2.2.5 of the RFP.

E.4 Supporting Other Environmental Research

The selected Proposer will be required to coordinate with independent scientists supported by third parties for the purpose of research and publication in peer reviewed journals. This coordination may include the provision of reasonably requested Project data, and access to the Project area to examine

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environmental sensitivities and/or the impacts of offshore wind energy development on the environment.

The Proposer must describe how such requests will be considered and processed, and any restrictions on data provision or access the Proposer believes may be required to protect trade secrets or maintain site security.

The Proposer may also elect to identify a level of financial commitment that will be appropriated to leverage third-party environmental research funding, including federal or State-supported research, or that the Proposer would be willing to contribute to a general fund for supporting third-party research into relevant ecological communities and the effects of offshore wind energy development. Such financial commitments will be favorably considered.

E.5 Marine Mammals and Sea Turtles

The development of offshore wind energy poses some concerns about effects on marine mammals and sea turtles, primarily related to the introduction of man-made sounds, changes in ship traffic, and the long-term presence of turbines in the ocean.

Sounds resulting from bottom surveys, ships, and pile driving may risk introducing possible changes in mammal behavior, including effective habitat reduction because of sound avoidance, interruption of life-cycle activities, and injury to hearing. For some marine mammals, low-frequency sounds such as pile driving, if performed in close proximity to an animal, can potentially cause permanent damage to hearing or temporarily make it difficult for the animal to hear predators, prey, and each other.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to marine mammals and sea turtles, with special attention to highly vulnerable and endangered species such as the North Atlantic right whale. At a minimum this should consist of:

1. A basic description of what is known about the proposed site in terms of marine mammal and sea turtle assemblage, temporal and spatial use of the site, and which species the Proposer believes to be of greatest concern and why;
2. A description of proposed measures to minimize the impacts of sound on marine mammals and sea turtles during all phases of Project development. This should include, at a minimum:
 - a. Anticipated pre- and post-construction survey techniques to establish an ecological baseline and changes to that baseline within the Project site;
 - b. Minimum size of exclusion zone intended to be monitored during geophysical surveys and construction;
 - c. Planned approaches to understanding marine mammal and sea turtle presence and absence within the development site exclusion zone during site assessment and construction (*e.g.*, a combination of visual monitoring by protected species observers

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and passive acoustic monitoring, the use of night vision and infra-red cameras during nighttime activities, etc.);

- d. Proposed temporal constraints on construction activities and geophysical surveys with noise levels that could cause injury or harassment in marine mammals (*e.g.*, seasonal restrictions during periods of heightened vulnerability for priority species; commencing activities during daylight hours and good visibility conditions); and
 - e. Proposed equipment and technologies the Proposer would use to reduce the amount of sound at the source, if any.
3. A description of how the Proposer will seek to minimize the risk of ship strikes through timing, speed restrictions (e.g., stakeholders have suggested speed restrictions of 10 knots during time periods with high densities of species of concern), use of shipping lanes, and conformance to the National Oceanic and Atmospheric Administration guidance to avoid ship collision with whales (<https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>).

E.6 Birds and Bats

Offshore wind energy has the potential to adversely impact birds and bats during siting, construction, and operation. Impacts include direct mortality from collisions with wind turbines and other structures, habitat loss, displacement, and sensory disturbances from sound and light. Since offshore wind is a new industry in the Atlantic and all potential impacts are not known, it is critical that current use by birds and bats is well understood before construction and use and impacts continue to be monitored during and post- construction so that unexpected impacts can be mitigated for.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to birds and bats. At a minimum this should include:

1. A basic description of what is known about the proposed site in terms of bird and bat assemblages, temporal and spatial use of the site by key species, and which species the Proposer believes to be of greatest concern and why;
2. The planned approach that the Proposer will use to evaluate risks to birds and bats generally, and those of greatest concern specifically;
3. Steps the Proposer will pursue to minimize risk to birds and bats (e.g. lighting); and
4. Identification of technological approaches to assess impacts or any Proposals for other research or mitigations relating to birds or bats planned or under consideration at this time.

E.7 Fish, Invertebrates and their Habitats

The principal potential risks of offshore wind energy development to fish, invertebrates and their habitats include possible changes to the seafloor and other habitats, increased sediment levels in the water column, noise and sensory disturbances, and direct harm to fish and invertebrate species from

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construction equipment. These changes could result in changes in predator/prey relationships, competition between species and changes to fish and invertebrate populations in and around the Project site.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to fish and invertebrates and their habitats. At a minimum this should include:

1. A basic description of what is known about the proposed site in terms of fish and invertebrate assemblage, and temporal and spatial variations in fish, invertebrates and their habitats at the proposed site. The use of collaborative monitoring models with the fishing community is encouraged to develop trusted baseline data;
2. Identification of fish and invertebrate species the Proposer believes to be of greatest concern and why;
3. The planned approach that the Proposer will use to evaluate risks and impacts to fish, invertebrates and their habitats generally, and the species or habitats of greatest concern specifically;
4. Steps the Proposer will pursue to minimize risk to fish, invertebrates and their habitats (e.g., foundation type, scour protection, cable shielding for electromagnetic fields, construction windows, siltation/turbidity controls, use of dynamic-positioning vessels and jet plow embedment); and
5. Any Proposals for other research or measures taken to reduce risk or impacts to fish, invertebrates or their habitats (e.g., ecosystem or habitat enhancements).