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Attachments

Reference	Description
8.A	Fisheries Mitigation Plan



8. RESPONSIBLE DEVELOPMENT

8.1. Fisheries Mitigation Plan

Elements of the Fisheries Mitigation Plan are described in detail in Appendix C. The Fisheries Mitigation Plan must address any variance among Proposals. The Submission must include both Confidential and Public versions of the Fisheries Mitigation Plan. The public version of the Fisheries Mitigation Plan will be made publicly available upon Proposal submission and should therefore utilize language accessible to the public that demonstrates an understanding of New York's diverse stakeholders, unique coastal and marine resources, and local communities.

The Fisheries Mitigation Plan should give as much detail as possible on how Proposer will mitigate adverse impacts on the commercial fishing industry that may be caused by the Project. Proposers are advised to review the Fish and Fisheries Study prepared for the New York State Offshore Wind Master Plan with respect to the potential impacts of offshore wind energy development on the fishing industry, and also are advised to include in their mitigation plan the appropriate Best Management Practices described in the Master Plan, its supporting studies and more recent relevant work. NYSERDA recognizes that after submission to the agency, the Proposer may change and update the Fisheries Mitigation Plan to reflect findings during the environmental reviews conducted by BOEM or New York State.

8.1.1. Fisheries Mitigation Plan Summary

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

Empire Wind welcomes the opportunity to submit a Fisheries Mitigation Plan (“FMP”) for Empire Wind, Phase 1 (“EW1” or “Project”) as part of its application to supply offshore renewable energy certificates to New York. From experience developing offshore wind energy facilities, Empire Wind believes that the responsible development of offshore wind energy resources can be compatible with fisheries resources and commercial and recreational fishing.

Empire Wind believes that impacts to fisheries can be minimized by carefully evaluating existing uses of the lease areas, avoiding impacts where feasible, or reducing impacts through mitigation. Empire Wind’s approach to fisheries mitigation is founded upon the fisheries mitigation hierarchy. More specifically, this approach means that Empire Wind anticipates and avoids impacts to fisheries resources and fishers, minimizes impacts where avoidance is not possible, and takes steps to offset any significant residual adverse impacts that are predicted to remain.

Empire Wind has and will continue to review existing research and data and continue to seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle. Empire Wind will continue to seek input from stakeholders on proposed schedules and methodologies as well as design, construction and operation, and decommissioning plans for the



Project. Empire Wind has partnered with INSPIRE Environmental to establish and conduct Benthic and Fisheries Monitoring surveys pre-, during, and post-construction for the EW1 project area and export cable route. Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farms. To the extent that any restrictions are necessary, these may be limited to standard safety zones during the construction phase and operational safety zones around manned or sensitive offshore platforms or access points. Empire Wind recognizes the importance of adaptive management and will continue to improve and mature its procedures to evaluate and mitigate impacts to fisheries resources. Empire Wind and its affiliates have gained extensive experience through developing and implementing the FMPs for their portfolio of projects. It has brought all of this experience to bear in the development of this FMP, and will continue to implement lessons learned and best practices as the portfolio develops.

Empire Wind has already taken the following steps to avoid and minimize potential impacts:

- Establishing a fisheries communications and outreach strategy to effectively engage with and solicit input from a wide range of fishers and stakeholders in multiple regions;
- Modifying survey schedules and locations in survey planning—and in real-time—by adaptive management of survey locations so as to avoid areas with active and/or seasonal fishing;
- Incorporating data and feedback in early spatial planning of export cable routes to avoid high-use, high-value, and high-sensitivity fisheries areas;
- Collaboration with Responsible Offshore Development Alliance (“RODA”) in January 2020 in Philadelphia and incorporated fishermen feedback to the EW1 layout, creating the “Squid Gap” in the northern portion of the Empire Wind lease; and
- Rearranged survey schedules to avoid active lobster fishing.

Mitigation measures will continue to be identified and developed with relevant fisheries stakeholders through an iterative process occurring during all stages of the Project.

Empire Wind and its affiliates have been working with the New York State Energy Research and Development Authority (“NYSERDA”) and the Special Initiative on Offshore Wind on a multi-state compensatory mitigation initiative that includes the States of New Jersey, New York, Massachusetts, Connecticut, Rhode Island, New Hampshire, Maine, Delaware, Maryland, Virginia, and North Carolina to develop a framework for a Regional Fisheries Compensatory Mitigation Fund. Empire Wind supports these regional efforts and will continue to participate and cooperate fully with the Bureau of Ocean Energy Management (“BOEM”), NYSERDA, and the 11 coastal states initiative.

The following sections summarize Empire Wind’s approach to the commercial and recreational fishing communities throughout all stages of the Project life, including how impacts will be assessed and mitigation measures considered and applied. Furthermore, the following sections set out principles for how Empire Wind will continue to work with the fishing industry to avoid or minimize impacts and collaborate on conducting research and monitoring. Naturally, the FMP



will continue to evolve through consultation with the Fisheries Technical Working Group (“F-TWG”) and the fishing industry as EW1 develops. Empire Wind has established the Empire Wind Fisheries Study Working Group (“FSWG”) to assist with the analysis and further refinement of the fishery monitoring that will occur along the EW1 export cable routes in state waters. The first FSWG meeting was held on November 28, 2023. A number of agencies and individuals that are part of the FSWG already participated in or attended the NYSERDA F-TWG and Environmental Technical Working Group (“E-TWG”) consultations. The FSWG is a requirement of the Certificate of Environmental Compatibility and Public Need issued by the New York State Public Service Commission for EW1’s electrical transmission facility.

8.1.2. 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 issued on July 12, 2018, the Order Adopting Modifications to the Clean Energy Standard issued on October 15, 2020 pursuant to Case No. 15-E-0302, and the order on Power grid Study Recommendations issued on January 20, 2022 pursuant to Case No. 20-E-0197, and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Further, the Orders require Proposers to work with the State supported Fisheries Technical Working Group (“F-TWG”). The Proposer must describe how it will identify additional stakeholders relevant to both onshore and offshore fishery issues and describe how the Proposer intends to communicate with those stakeholders during survey work, and design, construction, operation, and decommissioning of the Project. The Proposer must also describe how, specifically, it will communicate with vessels actively fishing in areas in or adjacent to the Project area during site assessment and construction activities and facilitate proper notification to vessels and resource managers. This description of communication protocols must account for the need to coordinate with members of the F-TWG and consultations with New York State agencies during the various Project phases.

Empire Wind believes that regular, open, and broad consultation is key to ensuring that all parties are well informed of Empire Wind’s offshore wind plans, designs, and activities so that they may provide meaningful input in design and mitigation options. Empire Wind intends for its fisheries outreach to be as inclusive as possible, including engagement with fisheries stakeholders through Fishing Industry Representatives (“FIR”) and/or groups such as F-TWG and RODA, as well as by engaging with organizations or individual fishers not represented in these groups. Empire Wind notes that this approach has proven effective and well-received throughout the continuing development of its projects in the New York Bight and New England Wind Energy Areas and submission of the Empire Wind and Beacon Wind Conference of the Parties (“COPs”). Section 2.2 of the FMP, provided as Attachment 8.A, provides a list of communication officers for EW1 to facilitate discussion of particular issues.

Empire Wind has established a comprehensive internal database of local and regional fisheries associations, societies, groups, individual fishers, and various industry organizations. This



database is maintained and regularly updated by the Fisheries Liaison Officer (“FLO”) in conjunction with Empire Wind’s key project team members.

Members of the commercial and recreational fishing communities are identified through various channels and include, but are not limited to:

- Contacting fishing industry leaders known through the combined FLO and industry experience;
- Contacting fishing industry association leaders;
- Attending Fishery Management Council meetings;
- Attending meetings related to offshore wind and fisheries interactions;
- Hosting booths at commercial and recreational fishing forums;
- Recommendations from state and federal fisheries staff;
- Public comments and documents online;
- Word of mouth from the fishing community;
- Automatic Identification System (“AIS”) monitoring including ship identification;
- Fishing vessels identified offshore during surveys by the Offshore Fisheries Liaison Representative (“OFLR”);
- National Marine Fisheries Service permit holder lists online;
- Dock visits; and
- Fisheries contacts information referenced in NYSERDA’s New York State Offshore Wind Master Plan Fish and Fisheries Study (NYSERDA, 2017; Appendix J).

Empire Wind participates and consults with other stakeholders and working groups, including:

- Empire Wind is participating in E-TWG and its current representation on the E-TWG can be found within the Environmental Mitigation Plan being submitted with this proposal as Attachment 8.C;
- Empire Wind attends “State of the Science” workshops and participates in focal species workgroups;
- Empire Wind is consulting with New England state agencies, as appropriate;
- Empire Wind participates in other state Fisheries Working Groups, for example, the Massachusetts Fisheries Working Group;
- Empire Wind is a founding member of the RODA joint industry task force; and
- Empire Wind is a founding board member of Responsible Offshore Science Alliance (“ROSA”) and participates as a member of the advisory council.

Empire Wind will continue to participate in the F-TWG, represented by those listed within the Communication Officers table in the FMP. Empire Wind will present all aspects of the FMP to the F-TWG during dedicated workshops at appropriate timing intervals to ensure the goals of the FMPs are met, and the FMPs are improved to reflect feedback. As well as the F-TWG, Empire Wind will continue to proactively engage with the fishing industry not represented on F-TWG, or



in addition to those on F-TWG. This may occur through industry groups such as RODA, other FIRs, or with individual fishing organizations or fishers.

Empire Wind is committed to continuing consultation with New York State agencies throughout the project development processes. This includes:

- Providing project development updates and schedules for Empire Wind;
- Consulting on benthic and fisheries resources; and
- Introducing and updating New York State agencies concerning Empire Wind activities. Empire Wind has engaged with and continues to engage with:
 - New York State Department of State (“NYSDOS”); New York State Department of Environmental Conservation (“NYSDEC”);
 - New York State Office of Parks, Recreation and Historic Preservation;
 - New York State Department of Public Service (“NYSDPS”);
 - New York Office of General Services (“NYSOGS”); and
 - NYSERDA.

Empire Wind has reached a wide range of potentially affected parties in order to provide project updates, communicate during offshore activities, and solicit feedback on offshore wind energy development. To achieve this, Empire Wind is taking a broad approach to disseminating information. Empire Wind will continue to use these practices as the Project develops and will add further outlets as appropriate.

Empire Wind communicates with vessels actively fishing in areas in or adjacent to the Project’s area during site assessment activities. Empire Wind will continue to implement this practice during construction and decommissioning activities to ensure proper notifications to vessels and resource managers through the following means:

- Regular updates to the [Mariners and Fisheries section of the Empire Wind website](#), with provided current and historical communications to stakeholders;
- Notification of upcoming site assessment and/or construction activities via various sources, including Survey Flyers, Local Notices to Mariners (“LNM”), email notifications, and details on project-specific webpages and relevant fisheries webpages;
- The OFLR will be responsible for monitoring the presence of fishing vessels and/or fishing gear in or around locations of site assessments and/or construction activities, and communications with vessels at sea and for relaying information back to the FLO;
- The FLO will be responsible for engaging with fisheries managers, fleet managers, FIRs, and individual fishermen prior to and during site assessment and/or construction activities;
- The FLO will monitor AIS in real-time to identify fishing activity (for those fishing vessels carrying AIS) in or around locations of sites assessment and/or construction activity; and
- Where appropriate, scout vessels acting on behalf of Empire Wind will monitor for the presence of static fishing gear, identify owners and contact details, and relay the information to site assessment/construction vessels/OFLRs and the FLO.



The FLO have had extensive and engaging consultations with the commercial and recreational fishing stakeholders and will continue to do so throughout all the stages of development. The FLO consult with individual fishermen; fishing organizations; fishing councils; working groups; Local, State, and Federal governments; academia; and interested individuals. Email, regular port and dock visits, phone calls, and texts are the primary means of communications to the fishing industry, along with Fisheries Open Houses and sponsoring, attending, and presenting at fishing forums and expos. Empire Wind will always be open to consideration of other means or methods that would provide for more effective and efficient communication with the fisheries stakeholders.

8.1.3. Monitoring and Research Pre, During- and Post-Construction

Fisheries research and peer-reviewed publication of research findings is key to advancing the knowledge of how offshore wind energy development might affect fish and fisheries. Proposers are encouraged to work with the fishing industry in the collection of data, to publish their own work in scientific journals or other scientifically vigorous products, and to coordinate with scientists and regulators interested in investigating fishery- 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 and fishery resources specific to the New York Bight. Thoughtfully planned, designed, and implemented pre-, during- and post-construction monitoring and research to understand fish 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 it plans to conduct scientifically sound, statistically rigorous studies to accomplish the following:

- 1. Establish baseline data on the spatial and temporal presence of fish and invertebrates in the proposed area of the Project at multiple life history stages included egg, larval, juvenile, adult, and spawning stages, as well as associated fish and invertebrate habitats;*
- 2. Monitor for impacts on these types of life history stages 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;*
- 3. Assess and quantify (to the extent practical) changes attributable to Project activities; and*
- 4. Determine how the proposed Project area is used by commercial and recreational fisheries in the region, including current and historic usage as well as associated transit routes, and how usages changes in commercial and recreational fishing patterns will be calculated post-construction.*



Proposers should also identify opportunities for developing or investing in collaborative research with the fishing industry to collect ecological and/or fishing data. The description must account for the need to coordinate with members of the F-TWG during data gathering and assessment.

Proposers should identify collaborative efforts currently underway or in the planning stages to help highlight means by which the industry plans to standardize scientific methods, surveys, and monitoring plans across the region to enhance data compatibility and utility. Proposers are encouraged to reference resources such as the Responsible Offshore Science Alliance (ROSA) [Offshore Wind Project Monitoring and Guidance Document Research and Monitoring Recommendations](#).

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 fisheries data available in accordance with Section 2.2.8 of the RFP.

Empire Wind is committed to collecting and evaluating existing data, conducting research studies, incorporating feedback from the fishing community, and conducting site-specific or collaborative regional surveys and research in order to establish a baseline characterization of the lease areas' natural habitat, resources, and uses. Establishing this baseline data is necessary to identify and quantify potential impacts from the proposed offshore wind energy development, identify mitigation options to avoid or minimize impacts, and establish protocols for monitoring impacts or data gaps where appropriate. Empire Wind's efforts to establish baseline data and monitor for potential impacts are conducted in accordance with best practices, including BOEM guidance as well as consideration of recommendations for further research from groups such as F-TWG and E-TWG. This section provides an overview of Empire Wind's approach to establishing baseline data, monitoring for potential impacts and changes in usage, and assessing and quantifying changes attributable to project activities (*i.e.*, pre-, during, and post-construction).

In the summer of 2022, Empire Wind contracted with INSPIRE Environmental to develop the Empire Wind Fishery and Benthic Monitoring Plan. After several months of consultation with F-TWG, E-TWG, the National Oceanic and Atmospheric Administration ("NOAA"), Northeast Fisheries Science Center ("NEFSC"), the fishing industry, state agencies, ROSA, and other stakeholders, Empire Wind promulgated the Final Plan in May 2023. The complete plan involves the following schedule of monitoring methods/activities:

- Squid Trawl
 - Sampling 1 year pre-construction, 1 year during, 2 years post-construction (2024-2027)
 - 4 field sampling trips per year between July and August
- Baited Remote Underwater Video ("BRUV")
 - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
 - 32 locations sampled quarterly



- Acoustic Telemetry
 - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
 - 48 acoustic telemetry receivers deployed year, with semi-annual data retrieval
- eDNA sampling
 - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
 - Sampling conducted on BRUV and trawl trips
- Scallop Plan View conducted by INSPIRE Environmental
 - Sampling 2 years pre-construction, 1 year during, 2 years post-construction (2023-2027)
 - Sampling one trip per year, 120 stations
- Benthic Sediment Profile Imagery (“SPI”)/Plan View (“PV”) and grabs
 - Sampling in late summer 2024 (pre), 2026, 2027, 2028, 2029, 2032
 - 11 sampling days, 352 SPI/PV stations, 60 grab stations
- Post-construction Benthic Stereo Camera ROV
 - Sampling in 2026, 2027, 2028, 2029, 2032

Since June 2023, Empire Wind has contracted with INSPIRE Environmental to execute 2 years of preconstruction monitoring. Empire Wind is in the process of further contracting the remaining monitoring efforts for the construction and post-construction phases.

Baseline data characterization and monitoring are being conducted in accordance with best practices, including BOEM guidance, and with consideration of recommendations for further research from groups such as F-TWG and E-TWG and ROSA’s Offshore Wind Project Monitoring and Guidance Document Research and Monitoring Recommendations. To date, the following pre-construction fishery and benthic plan activities have occurred:

- **Acoustic Telemetry:** Acoustic telemetry receivers were deployed starting on October 25, 2023. The acoustic telemetry surveys will help Empire Wind monitor species presence, persistence, and movements. This survey includes 48 receivers that are evenly distributed to maximize coverage within the Lease Area and along export cable routes (23 in the Lease Area, 9 in export cable routes in federal waters, 16 in export cable routes in state waters). The receivers will remain deployed year-round, and the data will be downloaded 2 times a year (spring and fall). Additionally, there will be 325 new tags per year targeting the following species: Atlantic Sturgeon, Black Sea Bass, Striped Bass, Winter Flounder, and Summer Flounder. This survey will build upon work of Stony Brook and Monmouth University from 2017-2018;
- **BRUV with eDNA:** Surveys will be conducted quarterly. The first survey occurred on July 5 and 6, 2023, the second survey on September 11 and 12, 2023, and a third survey was conducted on December 6 and 7, 2023. These surveys assess the change in abundance of individual species or assemblage composition with respect to distance from turbine



foundation. The survey includes deploying the BRUV at four distance intervals at 8 turbine sample locations;

- **Sea Scallop Drop Down Imaging:** The first Sea Scallop drop down imaging survey was conducted from June 18 to 21, 2023. This survey uses a Before-After Control-Impact design in the reference area. The plan view camera uses a trigger wire to collect images prior to hitting the seafloor. For this survey, there are 120 stations total with 60 in each area (Lease and reference). This survey will be conducted annually; and
- **Benthic SPI/PV Survey:** A sediment profile and plan view imaging survey was conducted along the EW1 export cable route from August 31 to September 7, 2023. Sampling was conducted at discrete station locations in the Lower Hudson Bay along the east side of Ambrose Channel out to the 3-mile New York state waters boundary.

Prior to the development of the monitoring plan, Empire Wind had been defining baseline data on the spatial and temporal presence of fish and invertebrates in the proposed area of the project using key existing literature and datasets:

- Public data sources suitable for characterizing benthic habitat and fisheries resources in the relevant area, including evaluation of NYSEDA’s Master Plan Fish and Fisheries Study (2017; Appendix J);
- 2017 to 2019 digital aerial survey images, monthly and quarterly reports of avian species, marine mammals, sea turtles, and large bony fish assemblages as observed from the 12 x monthly digital aerial surveys carried out from November 2017 to December 2019.
 - These data and reports are [publicly available](#);
 - Data are also publicly available on Duke University’s Ocean Biodiversity Information System Spatial Ecology Analysis of Megavertebrate Populations (“OBIS-SEAMAP”):
 - OBIS-SEAMAP Dataset - [Empire Wind Digital Aerial Wildlife Surveys for BOEM Lease Area OCS-A 0512, Equinor Wind US LLC, November 2017-October 2018](#);
 - OBIS-SEAMAP Dataset - [Empire Wind Digital Aerial Wildlife Surveys for BOEM Lease Area OCS-A 0512, Equinor Wind US LLC, February - December 2019](#);
- NOAA National Centers for Coastal Ocean Science and BOEM Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic (2019);
- Estuarine Living Marine Resource database (NOAA 2000) provide descriptions of spatial and temporal distributions of species (by life stage) in Hudson River/Raritan Bay and the Great South Bay; however, the database is not updated regularly;
- Use of fisheries effort data as a proxy for fish species; and
- In accordance with BOEM’s guidelines (BOEM 2020) and site characterization requirements 30 C.F.R. § 585.626(3), Empire Wind supported digital aerial surveys of the Lease Area to identify wildlife and supplement fisheries data in the Lease Area. Twenty-four surveys were conducted approximately monthly from November 2017 to October 2018 and February 2019 to December 2019.



A full description of baseline data for fish and invertebrates has been presented in [Volume 2b and Appendix T](#) of the COP for Lease OCS-A 0512.

Empire Wind is committed to supporting regional wildlife and fisheries research and monitoring initiatives through the Regional Wildlife Science Collaborative (“RWSC”) and ROSA. Empire Wind participates as an RWSC Steering Committee and Industry Caucus member and a ROSA Board and Advisory Council member. In addition, Empire Wind participates in a number of technical subcommittees to help shape regional science, monitoring, and research plans within the organizations. Empire Wind has signed a contract with ROSA to support the development of a research administration framework (*i.e.*, project selection, Request for Proposal (“RFP”), and project management process). Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

8.1.4. Supporting Other Research

The selected Proposer will be required to coordinate with third-party supported scientists, providing reasonably-requested Project data and access to the Project area for independent scientists examining environmental and fishery sensitivities and/or the impacts of offshore wind energy development on fish, invertebrates and fisheries for the purpose of publication in peer reviewed journals or other scientifically vigorous products.

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 shall identify ways to enhance site accessibility for the advancement of third party scientific and technological study.

The Proposer may also elect to identify a level of financial commitment that will be appropriated to leverage third-party environmental research funding related to fish, invertebrates and fisheries, including federal or State-supported research into relevant fish and invertebrate communities and associated commercial and recreational fisheries and the effects of offshore wind energy development. Such financial commitments will be favorably considered in the Proposal review process. Funding identified here should be separate from funding allocated under Section 2.2.7 of the RFP.

Empire Wind is committed to collaborating with the scientific community, E-TWG, relevant stakeholders, other offshore wind energy developers, and third-party groups to conduct robust and relevant research studies that relate to environmental resources and offshore wind projects. Equinor spent around \$20 million in 2023 on developing new knowledge, monitoring methods, and new solutions for a positive coexistence between offshore wind energy and nature. Future studies may include fishing feasibility (by technique) within operational wind farms, and options for research can be discussed through the F-TWG or other fisheries related initiatives, such as



ROSA and the fishing industry. Monitoring of sensitive wildlife and research programs to support conservation efforts are also part of Empire Wind's commitments to protect the environment. Empire Wind is committed to providing researchers and scientists with data that is not commercially sensitive. Empire Wind and its affiliates have a tradition of publishing research data on their environmental studies; such published studies include studies on benthos, biomass, noise, artificial reefs, and microplastics.

Oceanographic data not deemed proprietary (*e.g.*, seawater temperature and salinity) from the "Metocean Facilities" deployed within the Lease Area. Requests can be made directly via Michelle Fogarty at mfog@equinor.com. Metocean information is publicly available at the [MARACOOS OceansMap](#). Empire Wind will make non-proprietary environmental and fisheries data publicly available in a format and manner best suited for efficient distribution. Empire Wind also will consider making existing wind farm related vessels, buoys, or structures available for research opportunities where the research activities will not materially impact the existing objectives of those resources.

Empire Wind is committed to supporting regional wildlife and fisheries research and monitoring initiatives through RWSC and ROSA. Empire Wind participates as an RWSC Steering Committee and Industry Caucus member and a ROSA Board and Advisory Council member. In addition, Empire Wind participates in a number of technical subcommittees to help shape regional science, monitoring, and research plans within the organizations. Empire Wind has signed a contract with ROSA to support the development of a research administration framework (*i.e.*, project selection, RFP, and project management process). Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

Empire Wind will make an effort to meet with any interested parties when contacted to discuss prospective research. Empire Wind is also willing to consider requests to access Equinor's existing operating offshore wind energy developments in Europe to conduct research and monitoring. With regards to any restrictions, Empire Wind will restrict confidential, proprietary, and commercially sensitive data (as noted within the FMP).

Empire Wind already is collaborating with third-party researchers in support of monitoring activities and assessing impacts in the following ways (note that below examples include Empire Wind and its affiliates' collaborations across our regional portfolio):

- Empire Wind has partnered with INSPIRE Environmental to establish and conduct Fisheries and Benthic Monitoring. This Fisheries and Benthic Research Monitoring Plan has been developed in accordance with recommendations set forth in "Guidelines for Providing Information on Fisheries for Renewable Energy Development on the Atlantic Outer Continental Shelf" (BOEM 2019), which state that a fishery survey plan should aim to:



- Identify and confirm which dominant benthic, demersal, and pelagic species are using the project site, and when these species may be present where development is proposed;
 - Establish a pre-construction baseline which may be used to assess whether detectable changes associated with proposed operations occurred in post-construction abundance and distribution of fisheries;
 - Collect additional information aimed at reducing uncertainty associated with baseline estimates and/or to inform the interpretation of research results; and
 - Develop an approach to quantify any substantial changes in the distribution and abundance of fisheries associated with proposed operations.
- Empire Wind collaborated with SUNY Stony Brook to attach four fish tag receiver gates to the Empire Wind metocean facilities. The receiver gates, used primarily for detecting Atlantic sturgeon but also capable of detecting other tagged species, were part of a previously BOEM-funded study. Empire Wind coordinated with Stony Brook on opportunities to download and service the sensors during scheduled service visits approximately every six months;
 - Empire Wind is collaborating with the Wildlife Conservation Society and Woods Hole Oceanographic Institute on real-time large whale detection and notification buoys in a [minimum nine-year monitoring program](#). This includes an exhibit at the New York Aquarium and [publicly-available near-real time data stream](#);
 - Empire Wind metocean facilities (e.g., current meters and wave buoys) were deployed from 2018 to 2020, the [historical data](#) is publicly available on [MARACOOS OceansMap](#);
 - Equinor Wind was a founding board member of ROSA and is committed to continue supporting ROSA. Scott Lundin (Head of Environment and Permitting – New England) sits on the Board of Directors. E.J. Marohn (Marine Affairs Manager) is a member of the Advisory Council. Empire Wind contributed \$300,000 to the startup of ROSA with a commitment for an additional \$50,000;
 - Empire Wind and its affiliates are committed to continue participating in the development of the RWSC as it matures, where Jennifer Dupont (Head of Technical Environmental Affairs) has served on the Steering Committee for the past three years; multiple technical members sit on each of the subcommittees (marine mammals, sea turtles, birds and bats, etc.) Empire Wind contributes \$20,000/year in membership fees to RWSC;
 - Equinor Wind is a former member of the RODA Task Force;
 - Equinor Wind holds a board position on the Atlantic Marine Conservation Society board; and
 - [REDACTED]

Empire Wind, contingent upon a winning bid under this OREC RFP, is committed to supporting regional monitoring of wildlife and key commercial fish stocks equivalent to the specified value



of \$10,000 per MW of offer capacity. Half of this will support regional monitoring of key commercial fish stocks to better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks; and the other half will support regional monitoring of wildlife to better understand how offshore wind energy development effects distribution and abundance of sensitive species. Future Monitoring funds for commercial fish stocks and wildlife of conservation concern will be issued to RWSC and ROSA, per signed contracts, to administer on behalf of the selected projects in order to build an independent and competitive solicitation process for regional research projects.

8.1.5. Site Design Considerations

As offshore wind energy technology advances, Proposers are able to consider various alternatives for elements of the proposed site design and related infrastructure. The Proposer must describe how it will consider the potential adverse impacts of infrastructure design elements (e.g., turbine spacing and layout, turbine foundation type, cable burial and protection methods, offshore substation design, and cable crossing designs) on fishing in the proposed Project area.

The Proposer must demonstrate that the Project area and proposed site design allows for reasonable flexibility in the site layout (e.g. orientation of turbine lines, distance between turbines, and navigation areas) to accommodate changes that may be needed in the future. The Proposal must outline how the Proposer will engage with stakeholder groups such as the F-TWG and other regional fishermen and shipping and navigation to determine Project layouts that address stakeholder concerns.

The Proposer must identify in their site design the use of benthic habitat enhancement techniques that are applicable to promote added beneficial ecological improvement while offsetting adverse impacts.

Fisheries data and consultation feedback from the fishing industry and maritime community has resulted in different layout approaches for the U.S. offshore wind portfolio. Empire Wind believes that layout of infrastructure design elements depends on the specific lease location and many factors that may be unique to a given project area. Empire Wind has engaged in active dialogue with local fishermen through regular engagement with RODA. As part of these efforts, Empire Wind has held numerous workshops to discuss the potential interactions between the commercial fishing industry and the offshore wind industry and has incorporated insights and input into the design of the layout. The layout has been influenced by various considerations related to the preservation of fisheries resources, commercial fishing, and navigational safety. For instance, as a result of the engagement with RODA, Empire Wind has opened up the wind turbine generator (“WTG”) layout in the western portion of the lease area to minimize potential impacts to the squid fishery in the area while also ensuring efficient use of the lease area.

Empire Wind has conducted a Navigation Safety Risk Assessment of the Empire Wind Lease area. As a result, Empire Wind incorporated several mitigation planning factors in the layout design to ensure the safe navigation and shipping in and around the lease area. In order to not interfere



with the Traffic Separation Scheme (“TSS”) operations, Empire Wind has instituted a 1 nm setback from the TSS within the licensed area. In addition, the periphery WTG positions maintain straight line edges with the TSS lanes.

In consultation with the USCG, Empire Wind has maintained a single line of north-south orientation to facilitate Search and Rescue (“SAR”) access to and through the lease area. In addition, the proposed EW1 offshore substation was relocated to align with those SAR lanes.

Empire Wind will use a cable burial risk assessment to determine sufficient burial depth for the inter-array cable layout and along the export cable routes. To further reduce the risk of anchors and fishing gear snagging the submarine export cables, the export cable route has been selected targeting areas where chances of burial are improved and to avoid areas of high fishing activity. Where target burial depth cannot be reached, secondary protection shall be considered. The secondary protection will be of a design that will enable over-trawlability of fishing equipment.

8.1.6. Construction and Operation

The Proposer must describe its planned operational protocol to avoid, minimize, and mitigate impacts to fish, invertebrates and fisheries during Project construction and operation phases, such as vessel transit routes, designation and monitoring of safety zones, gear monitoring and retrieval, and communication with fishing vessels and resource managers. The Proposer must also describe its process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore fisheries in an alternative location or when the provision of compensation of some form may be appropriate.

The Proposer must describe how they will minimize potential loss of fishing gear due to snags on turbine structures, associated cables or cable mattresses, or related structures installed or deployed as a result of offshore wind energy development, and how the Proposer will approach claims of lost gear in the event of a snag that provides for a fair and timely review of the claim and appropriate compensation of impacted parties.

Empire Wind does not intend to restrict or apply for broad-based restrictions on fishing activities within the operational wind farm. To the extent they are necessary, potential construction strategies, such as rolling construction with safety zones, could be used in consultation with the appropriate regulators, F-TWG, and the fishing community to minimize the overall area of temporarily closed areas. Scout vessels will be used to identify fixed gear in advance of project-specific activities, project-related vessels will use prescribed transit routes, and safety vessels will be placed around high-risk structures.

During the construction and operations phase, the FLO will communicate with fisheries concerning temporary construction closures through in-person communications, email services, flyers, websites, and LNMs. Vessels associated with the project will comply with international and flag state regulations including the Convention on the International Regulations for Preventing Collisions at Sea, 1972 and the Safety of Life at Sea, and will utilize existing TSSs, maintained channels, and transit lanes to the extent practicable. Empire Wind will complete a Cable



Installation Plan detailing how cable installation will be managed to ensure disruption is minimized. All submarine export cables, inter-array cables, wind turbines, and offshore substation locations will be provided to NOAA for inclusion on nautical charts. To the extent practicable and in consultation with the fishing industry, these features will be marked on the most common types of software used by fishermen for navigation and fishing. Following installation of the export and inter-array cables, Empire Wind will conduct cable burial surveys at appropriate intervals to assess if target burial depth is being maintained, and Empire Wind will share information on identified navigational risks as appropriate. The use of concrete mattresses as surface cable protection will be limited, to the extent practicable.

Empire Wind has consulted with regulatory authorities and fisheries stakeholders to advance our approach to Gear Loss Prevention and Claim Procedure. The developed gear claims/conflicts application has been developed in collaboration with other regional offshore wind developers to support consistency in reporting and does not dictate that the claim review procedure will be identical among developers.

8.1.7. Considerations for Subsea Cables

New York State has developed an Offshore Wind Cable Corridor Constraints Assessment (Assessment) to better understand the constraints of siting cables in New York State waters, at landfall, and along overland routes to existing points of interconnection. The potential fish and fisheries impact of activities associated with subsea cable routes should be identified.

As documented in the Article VII Joint Proposal contained in the December PSC Order, the proposed routing, installation techniques, and operations of the EW1 cables in New York State have been evaluated by the state agencies in the context of the cable siting principles developed as part of the NYSERDA Offshore Wind Cable Corridor Constraints Assessment (NYSERDA 2023). As described herein and detailed in the Article VII Certificate Conditions: the proposed cable route avoids direct impacts to known in-water and onshore sensitive resources; certain unavoidable impacts to sensitive resources may occur, but these have been minimized to the extent practicable:

- Empire Wind will employ methods to minimize the lateral separation distance between the EW1 submarine export cables in accordance with Certificate Condition Y12(d);
- The Project has been sited in a manner that may enable future linear infrastructure projects to apply parallel routing and the two (2) HVAC cables will each remain bundled for their entire length in State waters;
- Where active and potential out-of-service cable and pipeline are encountered crossings will be perpendicularly to the extent practicable to minimize the impacts associated;
- Unavoidable impacts to anchorage areas and navigation channels have been minimized to the extent practicable;



- Once onshore, the underground cables will be installed within existing rights-of-way (“ROWS”) infrastructure, to the extent practicable and will use trenchless crossing methods; and
- Impacts to environmental justice area and disadvantaged communities have been minimized to the extent practicable with the predominantly submarine cable routing that avoids disruptions to onshore communities combined with a range of minimization and mitigation measures addressing construction, noise, lighting, and visual impacts among others.

In addition, as outlined in the Empire Wind Fishery and Benthic Monitoring Plan, Empire Wind is currently conducting pre-construction baseline monitoring through the use of 10 acoustic telemetry receivers along the EW1 export cable route (federal and state waters). These receivers will monitor the movements, presence, and persistence of several commercially and recreationally important species (*e.g.*, black sea bass, summer flounder, winter flounder, tautog) as well as the federally endangered Atlantic sturgeon. Pre-construction benthic SPI/PV and sediment sampling was conducted in August and September 2023 along the EW1 (State Water) export cable route, SPI/PV in federal waters will be conducted prior to cable installation as well as post-construction to study and monitor habitat impacts.

8.1.8. Project Decommissioning

The Proposer must describe how it will develop a decommissioning plan, including coordination with fisheries stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage. Proposals demonstrating thoughtful consideration of the full life cycle of offshore wind energy Projects will be considered favorably.

Empire Wind will be required to develop a decommissioning plan for EW1, subject to review and approval under BOEM’s regulations in 30 C.F.R. Part 585. The decommissioning plan may require additional environmental review and analysis under the National Environmental Policy Act (“NEPA”). For Lease OCS-A 0512, Empire Wind has provided a conceptual decommissioning plan in its COP. In addition, under state Article VII requirements, Empire Wind is required to prepare a Decommissioning Plan to be included in the Environmental Management & Construction Plan (“EM&CP”) for each segment. These decommissioning plans will undergo public and agency review as part of the EM&CP review and approval process. Empire Wind also pre-submitted the draft decommissioning plans for initial review to the NYSDPS Staff, NYSDEC, NYSOGS, Long Island Commercial Fishing Association, NYSDOS New York City Department of Environmental Protection, New York City Department of Transportation, and New York City Small Business Services. At this time, Empire Wind has submitted Decommissioning Plans for Part 1 (onshore below grade work) and Part 2 (submarine cable and landfall work) EM&CPs.

Empire Wind will consult regulators and fisheries stakeholders to study the potential impacts of decommissioning. At this early stage, it is not possible to accurately predict impacts and appropriate mitigation for decommissioning; however, decommissioning impacts are not expected to exceed impacts from construction. Potential impacts and mitigation options will



become clearer post-construction and during operations, facilitated by marine habitat monitoring.

The process for development of a decommissioning plan will be discussed further with E-TWG and F-TWG and relevant regulators and stakeholders. Lessons learned from the construction and operations activities will be applied to the decommissioning plan at the appropriate time. Empire Wind will consult with the fishing industry on the Empire Wind decommissioning plans at the appropriate time, closer to the decommissioning activities.

8.1.9. Fisheries Compensation Plan

The Proposer must describe how it will determine instances where all reasonable attempts to avoid and minimize Project impacts, or restoration to predevelopment conditions are not feasible and some type of fisheries compensation plan for potential losses and or increased costs associated with offshore wind development is warranted. The Proposer must describe how a fisheries compensation plan was, or will be developed; how the Proposer will coordinate with the F-TWG and other entities in the design or review of the fisheries compensation plan, and; how the compensation plan will be administered by an non-governmental third-party to provide reasonable and equitable. compensation for impacts that cannot be sufficiently addressed through other means.



In addition to avoidance, minimization, and mitigation measures otherwise specified in NYSDOS decision letters for the Project, Empire Wind has agreed to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishermen for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Project.

Since June 2021, NYSERDA has been working on a multi-state compensatory mitigation initiative that includes the States of New Jersey, New York, Massachusetts, Connecticut, Rhode Island, New Hampshire, Maine, Delaware, Maryland, Virginia, and North Carolina and has solicited comments from the states on a framework for a Regional Fisheries Compensatory Mitigation Fund. The states, in turn, have encouraged and assisted BOEM in developing a standardized fisheries mitigation guidance that will encourage developers to compensate fishermen who incur



damages from unavoidable impacts of offshore wind projects as a mitigation measure for their projects. Notably, BOEM's Guidance on this is near final.

Empire Wind supports these regional efforts and will continue to participate and cooperate fully with BOEM, NYSERDA, and the 11 coastal states initiative. In contributing to the Compensatory Mitigation Fund, Empire Wind has agreed to utilize and contribute to the Regional Fund outlined above for fisheries mitigation claims once it is established. If the Fund fails to be established, Empire agrees to utilize and contribute to a compensatory mitigation fund acceptable to NYSDOS, through which impacted New York State fishermen are eligible to submit compensation claims to offset demonstrated impacts from the Projects.

8.1.10. Additional Considerations

The Proposer must outline any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on the fishing community. Proposers are encouraged to review the Bureau of Ocean Energy Management (BOEM) Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 Code of Federal Regulations (CFR) Part 585. (Available at <https://www.boem.gov/Social-and-Economic-Conditions%20-Fishery-Communication-Guidelines/>) and Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf Report on Best Management Practices and Mitigation Measures. A final report for the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewal Energy Programs, Herndon, VA. OCS Study BOEM (available at <https://www.boem.gov/OCS-Study-BOEM-2014-654/>) in the development of their Plan.

Empire Wind is committed to working with F-TWG, regulators, and the fishing community to identify if fisheries data gaps still exist, identify if there are potential data sources and/or studies that can better inform these gaps or impacts, and reach consensus on methodologies for conducting meaningful studies.