NYSERDA ORECRFP22-1

Purchase of Offshore Wind Renewable Energy Credits

Submitted by Beacon Wind LLC - January 26, 2023

equinor

bp

Powering New York. Together

Table of Contents

Attachments

Reference	Title
3.A	Officers and Directors List
3.B	Project Details
3.C	Key Employee Resumes
3.D	Fisheries Survival Fund v. Sally Jewell Documents
4.A	Lease OCS-A 0520
4.B	USCG Port Access Route Study
5.A	Third Party Wind Resource Assessment
5.B	Hourly Wind Data
6.A	O&M Schedules
7.A	Financing Plan
7.B	Letters of Support from Banks
7.C	Equinor Annual Reports
7.D	Equinor US Holdings Financial Statements
7.E	bp Annual Reports
7.F	BP Corporation North America Inc. Financial Statements
8.A	Interconnection and Deliverability Plan
8.B	Interconnection Request
8.C	Interconnection Evaluation Study
8.D	Injection Study
8.E	Impact Study
8.F	Deliverability Study
8.G	Export Cable Route Study
8.H	Landfall and Onshore Cable Routing Study
8.I	HVDC Electrical Design Study
8.J	System Reliability Impact Study
8.K	Project One-Line Diagram
8.L	System Deliverability Study
8.M	Injection and Deliverability Study
8.N	Steady State Analysis
8.O	Meshed Ready Study
[redacted]	[redacted]
[redacted]	[redacted]
10.A	Permitting Matrix
10.B	SAP
10.C	COP
10.D	Alignment Letters from Agencies
11.A	Certification Plan Feasibility Confirmation
11.B	Supplier Letters of Support

12.A	Project Master Schedule
12.B	Permitting Schedule
12.C	Construction Schedule
12.D	WTG Schedule
12.E	Foundations Schedule
12.F	Cables Schedule
12.G	Electrical System Schedule
12.H	Marine Operations Schedule
12.I	Critical Path Schedule
14.A	Fisheries Mitigation Plan
15.A	Environmental Mitigation Plan
16.A	Stakeholder Engagement Plan
16.B	Stakeholder Database
16.C	Community Letters of Support
16.D	Press Clippings
17.A	Visual Simulations
17.B	GIS Shapefiles
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
21.A	Embedded Emissions Study

Table of Figures

[redacted]

[redacted]

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1. EXECUTIVE SUMMARY

Proposers are required to provide an executive summary that documents the eligibility of the proposed Offshore Wind Generation Facility, and the array of Proposals included in the Submission, including the proposed Contract Tenor(s), the overall Project schedule(s) including expected Commercial Operation Date(s), and other factors Proposers deem to be important. If Proposer has any conflicts of interest, in accord with Section 8.8, they should be disclosed in this section. If Proposer has no conflicts of interest, that should be stated. A disclosure statement regarding whether the Proposer has been found non-responsible under Section 139-j of the State Finance Law within the previous four years must be provided (see Section 8.2). If Proposer has any required disclosures, in accord with Section 8.5, they should be stated in this section. If Proposer has no required disclosures, that should be stated.

1.1. Introduction

Beacon Wind LLC ("Beacon Wind") hereby submits its offer[1] to supply offshore wind renewable energy certificates ("OREC") to the New York State Energy Research & Development Authority ("NYSERDA").[2] Beacon Wind's offers in this solicitation reflect the commitment of Beacon Wind and its affiliates to deepen their relationship with New York State and help NYSERDA achieve the goal of developing 9 gigawatts ("GW") of offshore wind energy and, ultimately, serve 100% of New York State with clean and zero-carbon energy sources.

[redacted]

- Partner with GE—a company with deep ties in New York—to support the construction of blade manufacturing and nacelle manufacturing facilities at the Port of Coeymans capable of producing components for the most advanced wind turbines available in the industry. [redacted]

[1] Evidence of proof of payment of the appropriate bid fee is being provided as an attachment.

[2] Throughout this narrative, Beacon Wind has highlighted in yellow text that contains confidential information or trade secrets that are exempt from public disclosure. Attachments for which Beacon Wind is requesting confidential treatment are labeled with "Redacted" and "Confidential Copy – Do Not Disclose." A statement supporting these claims of confidentiality is provided under separate cover.

[redacted]

- Partner with [redacted] in the manufacture of submarine cables, to support the construction of a highly specialized factory for the production of HVDC export cables estimated to create good paying jobs that are expected to last for decades to come. [redacted]

- [redacted]

The investments that Beacon Wind is proposing to make if selected through this solicitation will not only create new economic opportunities for New Yorkers, but will ensure that New Yorkers, particularly members of Disadvantaged Communities and other underserved groups, have the training, skills, and support to seize these opportunities. [redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]

[redacted]

1.2. Overview of the BW2 Project

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

1.3. Overview of Proposals

Each of the proposals that Beacon Wind is submitting as part of this bid would leverage the existing investments that Beacon Wind and its affiliates have made in New York to generate billions of dollars in incremental economic benefits for New Yorkers by conducting significant construction, operation, and maintenance activities in New York. However, Beacon Wind and its affiliates are not merely proposing to leverage the existing investments that it has made in connection with earlier solicitations and commitments. Instead, Beacon Wind and its partners are proposing to further solidify New York's place as the home of offshore wind on the East Coast:

- **Develop state-of-the-art blade and nacelle manufacturing facilities.** With the exception of the Standalone Proposal, each of Beacon Wind's proposals includes a Supply Chain Investment Plan ("SCIP") proposing to leverage New York State funding to allow GE to construct an offshore wind blade and nacelle manufacturing facility at the Port of Coeymans. Beacon Wind elected to submit a SCIP proposing an investment by GE, given GE's combination of industry-leading wind turbine technology and longstanding New York presence. Leveraging the deep understanding that GE has acquired of the supply chain, workforce, and communities in New York, GE is proposing an investment that will bring long-term, sustained economic opportunities to the Capital Region, including generating significant economic benefits in Disadvantaged Communities to ensure that all New Yorkers enjoy the benefits of the substantial investment that New York is making in offshore wind and the energy transition.

- **Develop an HV submarine cable manufacturing facility at the** [redacted] Beacon Wind is proposing to support a proposal [redacted] to leverage New York State financing to develop a high-voltage, subsea cable factory capable of manufacturing HVDC submarine cables to support the interconnection of offshore wind resources on the East Coast but also around the world. [redacted]

[redacted]

[redacted]

[redacted]

Figure 3 below provides a high-level overview of the key elements of Beacon Wind's proposals.

[redacted]

[redacted]

[redacted]

[redacted]

1.3.1. Supply Chain Investment Plans

As part of its proposals, Beacon Wind proposes to collaborate with two of the leading manufacturers of offshore wind components—GE [redacted] to leverage a combination of New York State Funding and private capital to bring key aspects of the offshore wind supply chain to New York. Specifically, through this solicitation, Beacon Wind proposes to give NYSERDA the option to support the construction of a cable facility for manufacturing export cables as well as a blade and nacelle manufacturing facility. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

1.3.2. Pricing

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

This third solicitation further demonstrates New York's commitment to achieving the state's ambitious environmental and economic objectives. Similarly, Beacon Wind and its affiliates are deeply committed to the growth of offshore wind resources in the United States and around the world. Beacon Wind and its affiliates welcome the opportunity to expand its existing partnerships with New York, suppliers, stakeholders, and partners to cement New York's position as a leader in the offshore wind industry and serve as a catalyst to achieving a just transition.

2. IMPACTS OF COVID-19 ON PROPOSER AND PROJECT DEVELOPMENT

Proposers are required to describe how the ongoing COVID-19 pandemic has affected and/or continues to affect their business operations, the process of developing the Project, and the content of the Submission. For the avoidance of doubt, the content of this section of the Proposal Narrative is informational only and will not affect the Project Viability scoring of any of the submitted Proposals.

The COVID-19 pandemic has had a profound impact on the energy industry, including project development and execution. Renewable developers, in particular, have experienced significant constraints and unforeseen cost increases as a result of supply chain limitations, increases in commodity prices, and workforce constraints.

Notwithstanding these challenges, Beacon Wind, its affiliates, and partners have remained focused on adapting its process and procedures to ensure continuous progress toward the development of its offshore wind resources while ensuring the health and safety of their employees. Health and safety are top priorities and shape every decision that Beacon Wind and its affiliates make—now more than ever.

Early on, restrictions on the conduct of non-essential businesses and gatherings of individuals delayed and disrupted surveys and land acquisition activities. Notwithstanding these disruptions, Beacon Wind and its affiliates have been working tirelessly to avoid and mitigate delays due to disruptions associated with COVID-19. In the early days of the pandemic, Beacon Wind was able to leverage its affiliation with Equinor and bp to shift seamlessly to remote work and collaboration. As global energy companies with assets and operations around the world, Equinor and bp already had extensive experience coordinating across offices, countries, and time zones. These capabilities have proven invaluable in helping to ensure continuity of operations throughout the pandemic. With the recent adjustments to social distancing guidelines and updated social gathering guidance, we have sought to supplement our virtual interactions with in person meetings with partners and stakeholders, when possible, to foster the personal connections necessary for successful project development.

Our ability to effectively navigate this transition has been a testament to the dedication, commitment, and flexibility of our systems, employees, and partners and we look forward to continuing to improve these strengths to deliver efficient and affordable power to New York.

3. PROPOSER QUALIFICATIONS

Proposers are required to provide the following information with their Proposal:

3.1. Organizational Structure

1. Describe the business entity structure of Proposers' organization from a financial and legal perspective, including all general and limited partners, officers, directors, managers, members and shareholders and any persons who the Proposer knows will become officers, board members or trustees, and involvement of any subsidiaries supporting the Project. Provide any Diversity, Equity, and Inclusion plan to be used in selecting new officers, board members or trustees.

As noted above, this bid is being submitted by Beacon Wind LLC ("Beacon Wind"). Beacon Wind holds lease number OCS-A 0520 and the assets associated with the Beacon Wind Project, including Beacon Wind 1 ("BW1") and Beacon Wind 2 ("BW2").

[redacted]

Together, Equinor and bp represent over 150 years of world-class energy project development, construction, and operation experience that they will bring to bear on BW2.

[redacted]

The leadership of Beacon Wind and its parents consists of individuals with significant experience with the development of complex offshore energy resources. Consistent with each Sponsor's

[5] *See bp Completes Entry Into Offshore Wind, with Strategic Partner Equinor* (Jan. 29, 2021); *Equinor and bp Complete US Offshore Wind Transactions and Formation of Strategic Partnership* (Jan. 29, 2021).

respective mission to provide opportunities and nurture underrepresented communities to find career success in their respective organizations, Beacon Wind employs a Diversity, Equity, and Inclusion strategy at all levels of employment and governance positions within Beacon Wind, and its respective parent's subsidiaries related to the project. The Diversity Equity and Inclusion plan for each of the Sponsors can be found in their respective annual reports, provided as Attachments 7.C and 7.E:

- Equinor ASA: Annual Report 2021 – Chapter 2.15 Our People (pgs. 114-118)
- bp: Annual Report 2021 – Corporate Governance (pgs. 104-106)

[redacted]

3.2. Organizational Chart

2. An organizational chart for the Project that lists the Project participants, including parent companies and joint ventures transacting business in the energy sector, identifies the corporate structure, including general and limited partners, and shows the relationship among the different Project participants.

[redacted]

[redacted]

[redacted]

Equinor ASA is an international energy company, headquartered in Norway that has operations in over 30 countries and more than 21,000 employees worldwide. Equinor ASA is listed on the New York and Oslo stock exchanges and has a current market capital valuation of approximately $106 billion.

Through its subsidiaries, Equinor ASA engages in the development of offshore wind facilities as well as the exploration, development, and production of oil and gas around the world. Equinor ASA is the leading operator on the Norwegian continental shelf and has substantial international

operations. A full overview of Equinor ASA and its subsidiaries' business activities is provided in the annual reports provided as Attachment 7.C.

bp is a multinational integrated energy company headquartered in London, England. bp has operations in +70 countries with ~65,900 employees. bp's purpose is to reimagine energy for people and our planet, to help the world reach net zero, and improve people's lives. bp has demonstrated commitment through actions and investments and is now driving sustained success with a target of developing 50 GW of renewables and capturing 10% of the clean hydrogen market by 2030.

bp is presently developing several offshore wind projects across the world and is seeking to continuously grow its global offshore wind portfolio. bp has a proven track record of successfully developing, constructing, and operating complex offshore projects and remains at the forefront of the industry globally with significant investments and operations.

More information about bp's transformation to an integrated energy company dedicated to scaling-up its low-carbon energy business lines is provided in the annual reports provided as Attachment 7.E to this bid.

[redacted]

3.3. Joint Venture Details

3. For joint ventures, identify all owners and their respective interests, and document Proposers' right to submit a binding Proposal.

[redacted]

3.4. Diversity, Equity, and Inclusion

4. For all Proposers, provide the race and gender of the members of the governing body of the Proposer and its owner(s).

3.4.1. Equinor

Diversity and Inclusion ("D&I") aligns with our values, our safety culture, and our corporate purpose. To turn natural resources into energy for people, we need to be innovative and make good business decisions – we need to push the way we think. We enhance our diversity of thought by collaborating across people with different capabilities, experiences, and perspectives. To create progress for society, we need to actively create equal opportunities within our own

organization. We create long-lasting impact in broader society by standing firm to our values in the work we do, the investments we make, and the partnerships we engage in. D&I is a strategy enabler and an important part of attracting and retaining our talent.

Equinor has worked systematically with D&I since 2019, focusing on diversity beyond gender and building a psychologically safe and inclusive work environment. In 2019 we updated our code of conduct[6] and embedded D&I into key HR processes, including recruitment, talent, succession, and leadership.

The key pillars of Equinor's D&I strategy include:

- Diversity of thought
- Inclusive and psychologically safe
- Fair and equal opportunities

Further detail on Equinor's D&I work and current metrics can be found in its most recent annual report[7] and on its website.[8]

3.4.2. bp

bp's Diversity, Equity, and Inclusion ("DE&I") goals are built around three pillars providing a global framework that guides advancing and integrating diversity, equity, and inclusion across a global business – creating equal opportunities for people, both inside and outside of bp. Progress relies on our transparency, accountability, and talent empowerment.

- Transparency: advancing DE&I through data insights;
- Accountability: creating an enterprise-wide accountability for DE&I from education and metrics embedded in our daily operations and our reward structures; and
- Talent: fostering equity throughout the talent lifecycle.

The bp America D&I Council reports quarterly on the above themes. Further detail on bp's DE&I work and current metrics can be found in its most recent annual report[9], diversity equity and inclusion report,[10] and on its website.[11]

[6] Chapter 2.1 focuses on Diversity and Inclusion https://cdn.sanity.io/files/h61q9gi9/global/5ba16c4ce7fcf826cb00010d224e334fbf3189d6.pdf?equinor-code-of-conduct-2022.pdf

[7] Equinor ASA: Annual Report 2021 – Chapter 2.15 Our People (pgs. 114-118)

[8] https://sustainability.equinor.com/

[9] Annual Report 2021 – Corporate Governance (pgs. 104-106)

[10] https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-diversity-equity-and-inclusion-report-2021.pdf

[11] https://www.bp.com/en/global/corporate/careers/life-at-bp/diversity-equity-and-inclusion.html

The combined strength of Beacon Wind's sponsors' dedication to diversity and inclusion applies just as forcefully to all aspects of its offshore wind development efforts and the officer and director level positions in Beacon Wind and its parent entities.

A description of the ownership and governance of Beacon Wind and its affiliates, including a statement of race and gender identification for each entity's board of directors and chief officers, is provided in Attachment 3.A.

3.5. Specific Experience

5. Statements that list the specific experience each of the Project participants (Proposer and any development partners) in developing, financing, owning, and operating generation and transmission facilities, other projects of similar type, size and technology, and any evidence that the Project participants have worked jointly on other projects.

Beacon Wind and its affiliates are global leaders in the development, financing, construction, operation, and maintenance of offshore wind facilities. Beacon Wind and its affiliates currently have over 10 GW of offshore wind capacity in operation or active development around the world, including offshore wind projects in the United States, the United Kingdom, Norway, Poland, Germany, Japan, and South Korea.

In the United States, Beacon Wind and its affiliate, Empire Wind, are developing two offshore wind lease areas off the coast of New York.

The Empire Wind Project is a multi-phase offshore wind project being developed under an offshore wind lease executed with the U.S. Department of Interior, Bureau of Ocean Energy Management ("BOEM") in 2017. The Empire Wind Project is being developed in the New York Bight in an area extending approximately 15 to 30 miles southeast of Long Island. The 2,076 MW Empire Wind Project ("EW") is currently under development following selection of the two project phases in each of NYSERDA's prior offshore solicitations.

The Beacon Wind Project is a multi-phase offshore wind project being developed under an offshore wind lease executed with BOEM in 2018. The Beacon Wind Project is being developed in an offshore wind lease area located approximately 60 miles east of Montauk, New York. The first phase of the Beacon Wind Project ("BW1") currently under development is a 1,230 MW offshore wind project that was selected through New York's most recent offshore wind solicitation.

Once complete, the Empire Wind and Beacon Wind Projects are expected to have a combined installed capacity of over 4 GW and be capable of powering more than two million homes with renewable energy. The Sponsors appreciate the opportunity to support New York as it moves forward with its efforts to accomplish the ambitious goals set out in the CLCPA.

The following sections provide an overview of the relevant experience of Equinor and bp.

3.5.1. Equinor Experience

Equinor is a leading developer of offshore wind in the United States and around the world

Figure 8 depicts the location of offshore wind projects that are currently under development by Equinor and its affiliates.

In addition to the projects described below, Equinor Wind US LLC was declared the provisional winner of a lease for OCS-P0563, an approximately 80,000 acre lease area located in the Morro Bay Area off the coast of California. The lease area is estimated to support roughly 2 GW of generation.[12]

A brief description of Equinor's presence in key areas of development is provided below.

North Sea

Equinor's extensive experience operating in the demanding conditions in the North Sea has allowed Equinor to quickly establish itself as an offshore wind leader in the UK:

- Equinor has developed, constructed, and operates two utility-scale offshore wind farms in the United Kingdom: (1) the 317 MW Sheringham Shoal offshore wind farm; and (2) the 402 MW Dudgeon offshore wind farm.
- Equinor is currently developing the Sheringham Shoal and Dudgeon Extension projects adding a combined total of 719 MW to these projects.
- Equinor and its partners, SSE Renewables and Vårgrønn, are currently developing the Dogger Bank project. Once complete, Dogger Bank will be the world's largest offshore

[12] https://www.equinor.com/news/20221207-lease-california-floating-offshore-wind

wind farm with a total installed capacity of 3.6 GW and will be capable of powering approximately 4.5 million homes. Equinor will be the operator of the assets in the O&M phase.

- Equinor also is the developer, owner, and operator of the 30 MW Hywind Scotland wind farm, the world's first floating offshore wind farm. For three consecutive years, Hywind Scotland reached the highest average capacity factor for any wind farm in the UK.
- Equinor is currently developing the 88 MW Hywind Tampen Project off the coast of Norway to provide power to offshore oil and gas platforms located in the North Sea. Together with its partners Petoro, OMV, Vår Energi, Wintershall Dea, and INPEX Idemitsu Norge AS, the project will be the largest floating offshore wind project in the world and will reduce the use of gas turbine power at the platforms while offsetting approximately 200,000 tons of CO2 emissions per year. Power production from the first turbines in the floating wind farm Hywind Tampen started in November 2022 and the remaining turbines will be installed this year.
- Equinor and its partner Vårgrønn are jointly preparing an application to the Norwegian authorities to develop floating offshore wind at Utsira Nord west off Utsira and Haugalandet in the Norwegian North Sea. The Norwegian Ministry of Petroleum and Energy has opened the Utsira Nord area for offshore renewables, and the authorities are currently working on the licensing process for Norwegian offshore wind power projects.
- The Norwegian Government has announced that the first phase of the Sørlige Nordsjø II area will be auctioned during 2023. Equinor, together with its partners RWE Renewables and Hydro REIN, will jointly prepare and submit an application to the Norwegian authorities to develop a large-scale bottom-fixed offshore wind farm in the Sørlige Nordsjø II area in the Norwegian North Sea to develop a 1.5 GW windfarm that provides power to the Norwegian mainland.
- Equinor and its partners Petoro, TotalEnergies, Shell, and ConocoPhillips in the Troll and Oseberg gas and oil fields, have initiated a study and are looking into possible options for building a floating offshore wind farm in the Troll area some 65 kilometers west of Bergen, Norway. With an installed capacity of about ~1 GW and an annual production of ~4.3 TWh, with a startup in 2027, Trollvind could provide much of the electricity needed to run the offshore fields Troll and Oseberg through an onshore connection point. Power from Trollvind could make a solid contribution towards the electrification of oil and gas installations, accelerate offshore wind development in Norway, and deliver extra power to the Bergen region. Trollvind is now being further matured by the Troll and Oseberg partners initiating feasibility studies aimed at an investment decision during 2023.

Baltic Sea

Leveraging the success in developing offshore wind assets in the North Sea, Equinor has a rapidly expanding portfolio of projects in the Baltic Sea as well:

- Equinor is a partner in the Arkona offshore wind project, a 385 MW wind farm located in the Baltic Sea approximately 22 miles from the German coastline that was completed in 2019.
- Equinor currently holds an interest in the Baltyk offshore wind projects, three offshore wind projects that are currently under development off the coast of Poland and that are expected to have a combined capacity of approximately 3 GW.

Asia

- Equinor has entered an MoU with PetroVietnam for future offshore wind opportunities. The partnership supports Equinor's strategy as a global offshore wind major to build scale in core areas and secure growth options in attractive transition markets.
- Donghae Wind Farm Project – Together with the Korean National Oil Company and East-West Power, Equinor is currently exploring the possibility of developing a 200 MW floating offshore wind project off the coast of Ulsan, South Korea.
- Firefly Wind Farm Project – Equinor is currently exploring the possibility of developing an 800 MW floating offshore wind project off the coast of Ulsan, South Korea. In 2020, Equinor deployed LiDAR technology within the relevant lease area to collect wind resource data to evaluate potential site viability. The project is planned to start operations in 2027.
- Equinor and strategic partners are submitting a bid in Japan's first offshore wind auction to obtain the rights to pursue development in two areas offshore the northern Japanese prefecture of Akita, which has been dedicated as promotional zones for offshore wind, each representing an area for bottom-fixed offshore wind farms of approximately 400 MW and 700 MW, respectively.

Southern Europe

Equinor and Naturgy Energy Group (NEG) are currently looking into opportunities for offshore wind power in Spain. The Floating Offshore Wind Canarias ("FOWCA") is a 200 MW floating wind project off the coast of Gran Canaria with a tie-in to Barranco de Tirajana. Equinor and NEG will jointly bid in the region's upcoming first auction.

3.5.2. bp Experience

bp's purpose is to reimagine energy for people and the planet, with an ambition to be a net zero company by 2050 or sooner. bp's strategy has three focus areas: resilient hydrocarbons, convenience and mobility, and low carbon energy, which together make an integrated energy company. bp's strategy is reshaping the business as it pivots from being an international oil company focused on producing resources to an integrated energy company focused on delivering solutions for customers. As part of this transition, bp is significantly scaling-up its low-carbon energy business and transforming its mobility and convenience offers. By 2030, bp will be an

integrated energy company – with hydrocarbons one part of a more balanced portfolio. Figure 9 illustrates bp's global Offshore Wind portfolio and partnerships.

[redacted]

UK Offshore Wind Farms

bp has been developing the Morgan and Mona projects in the Irish Sea with partner, EnBW since its award in February 2021. When completed, these projects will have a combined potential generating capacity of 3 GW, which is sufficient to power the equivalent of approximately 3.4 million UK households with clean electricity.

bp, along with partner EnBW, have also been awarded a lease option off the east coast of Scotland in January 2022 to be known as Morven. It will have a total potential generating capacity of around 2.9 GW, sufficient to power more than 3 million homes. Through this project, bp will establish an operational center in Scotland, making Aberdeen its global operations and maintenance center of excellence for offshore wind, and directly creating up to 120 new jobs.

Norway

bp is joining a consortium with Statkraft and Aker Offshore Wind to develop offshore wind energy in Norway. The partnership, which will pursue a bid in the Sørlige Nordsjø II ("SN2") license area, brings together the individual companies' strong technical skills and deep experience in offshore energy projects, from development to the delivery of offshore renewable energy to market.

Japan

bp announced a partnership with major Japanese trading and investment company, Marubeni, to explore a selected offshore wind development opportunity in Japan. This partnership will also explore other decarbonization projects. bp is growing its offshore wind presence in Japan and is currently recruiting for offshore wind jobs at our office in Tokyo.

US Onshore Wind

bp operates nine sites in six US states and holds interest in a facility in Hawaii with a total net generating capacity of 926 MW. Additionally, bp owns ONYX InSight, an international provider of digital and predictive maintenance solutions to the wind industry. By leveraging this technology, bp can better understand the life span of turbine components, improve maintenance schedules, reduce costs, and avoid breakdowns.

- Colorado: bp is the operating partner of the Cedar Creek 2 wind farm. This 30,000-acre site has 122 turbines with a total capacity to generate over 248 MW of wind power. This is enough electricity to power approximately 65,000 average homes for a year.
- Kansas: bp owns and operates the Flat Ridge 1 wind farm and is the operating partner in the Flat Ridge 2 wind farm, both located west of Wichita. Spanning over 70,000 acres, these two farms have 314 turbines with the capacity to generate 520 MW of electricity or enough to power about 140,000 average homes.
- Idaho: bp is the operating partner of Goshen North wind farm. Situated on about 11,000 acres, just east of Idaho Falls, Goshen's 83 wind turbines can generate up to 124.5 MW of electricity. This is enough to power about 33,000 average homes annually.
- Indiana: bp operates the Fowler Ridge 1, 2, and 3 wind farms. Spanning over 42,000 acres, these farms have 355 wind turbines with 600 MW of total generating capacity, which can power about 160,000 homes for a year.
- Pennsylvania: bp is the operating partner of Mehoopany wind farm. The 9,000-acre site features 88 wind turbines with the capacity to generate 141 MW of power – enough to provide electricity to 38,000 average homes annually.
- South Dakota: Situated on 7,500 acres, Titan 1 wind farm is wholly owned and operated by bp. The farm has 10 turbines with the capacity to generate 25 MW of wind energy – enough to power about 6,700 average homes annually.
- Texas: headquarters is located in Houston, along with a Remote Operations Center that centrally monitors all bp-operated wind farms – 24 hours a day, seven days a week – while working with colleagues in the field to enhance performance, reliability, and safety.
- Hawaii: Situated on a 5,400-acre site on the island of Maui, the Auwahi wind farm uses eight wind turbines to generate 21 MW of electricity. Its output can power the equivalent of 5,600 homes each year. bp is a non-operating partner of Auwahi.

3.5.3. Equinor and bp: Better Together

Beacon Wind's status as a subsidiary of Equinor and bp provides Beacon Wind and its affiliates with access to the capabilities and resources of two of the world's leading energy companies, both of which have established themselves as leaders in promoting the energy transition through the development of renewable and zero-carbon resources. Collectively, Equinor and bp have over 100 years of experience developing large scale energy projects around the world. As a result of this experience, they have developed extensive technical and commercial expertise relevant to the development, construction, and operation of offshore wind projects, including project management, environmental analysis, marine engineering, coordination of marine/vessel operations, lifting operations, and coordination of personnel, equipment transport, and the selection and management of contractors. Equinor and bp's relevant experience, competence, and capabilities include the following:

Equinor

- **Project Design**: Equinor has extensive experience designing complex offshore structures and facilities that can operate reliably in the ocean environment while also accommodating wildlife, community, and commercial priorities. This experience includes designing and selecting each component of an offshore wind facility's electrical system and interconnection facilities, including turbine design and layout, sub-sea support structures, and submarine cables. The insights gained from operating offshore energy assets for decades allows Equinor to design offshore wind projects that are optimized to maximize production and facility availability and minimize downtime.
- **Manufacturing & Fabrication:** Equinor and bp have extensive experience with, and systems for, managing and supervising manufacturing and fabrication activities. Although these systems were initially developed in connection with their oil and gas activities, they have been extended and adapted, where appropriate, to successfully execute offshore wind projects.
- **Offshore Construction & Installation:** Equinor has unparalleled capabilities for executing, supervising, and managing complex and challenging offshore construction and installation activities. The capabilities that Equinor had developed through its oil and activities have been extended and adapted to support Equinor's objective of becoming an offshore wind major.
- **Sub-Sea Installation**: Equinor has a long track record of successfully installing, maintaining, and retrieving bottom fixed sub-sea installations. In connection with its oil and gas business and growing offshore wind portfolio, Equinor has successfully installed and constructed facilities employing the full range of substructure concepts, including monopiles, gravity-based structures, and jackets. Equinor's experience gives it a deep understanding of not only the risks, challenges, and costs but also the suitability and benefits of different technologies.

- **Maritime Construction and Marine Logistics**: Equinor has a long history of constructing and operating maritime terminals for the transport of products and equipment around the world. Equinor employs industry best practices to seamlessly coordinate maritime vessels transporting equipment, personnel, and other cargo to ensure the efficient and timely construction and maintenance of its offshore projects while minimizing disruption to maritime and fisheries resources.
- **Environmental Assessment**: Environmental impact assessments are an integral part of successfully developing all offshore projects, and Equinor has vast experience working with marine life, environmental baseline data collection and monitoring, and protecting the environment through responsible development and mitigation. Equinor and bp are both participating in joint industry initiatives investigating the impacts of offshore wind projects on wildlife, including on seabirds and marine mammals. Additionally, Equinor sits on numerous stakeholder group committees, including the Fishing Liaison for Offshore Wind and Wet Renewables, the Sound and Marine Life Program, the Fisheries Technical Working Group, and the Environmental Technical Working Group. These groups are focused on promoting best practices to minimize the impact of the development of offshore renewable generation on commercial fisheries and marine ecology.
- **Safety, Security, and Sustainability (SSU):** Equinor`s vision is zero harm for all projects. Equinor strives to ensure that its industry-leading SSU standards are applied consistently across the Equinor group and to those providing services to support Equinor's activities around the world. Risk assessments are done in all phases of development involving all relevant parties. Equinor's approach to SSU will be applied to ensure the safe and efficient development of the Empire Wind and Beacon Wind Projects.
- **Operations and Maintenance**: Equinor operates 24-hour, 7-day a week operations and maintenance centers to monitor each of its operating offshore wind facilities and to ensure that any issues that may arise are timely identified and remedied. Composed of a multi-disciplinary team of experts, including engineers, marine coordinators, planners, emergency responders, and wind farm technicians, Equinor's operations and maintenance team works in close coordination to minimize outages and ensure that each of Equinor's projects operates reliably and safely.
- **Interconnection**: Equinor has experience with every phase of interconnecting offshore wind projects to the grid, including evaluating potential interconnection points and installing and constructing onshore and offshore interconnection facilities and substations. Equinor has experience working closely with transmission providers and local utilities to facilitate the timely and cost-effective interconnection of its projects to the grid.
- **Energy Marketing**: Equinor's marketing and trading group has a long history of maximizing the value of Equinor's portfolio of oil, gas, and electric generation assets, including evaluating and hedging market risk and negotiating offtake agreements with

customers [redacted] Equinor Wind has experience with a wide range of funding models, including balance sheet financing and the use of project financing.

- **Community Outreach**: Equinor has extensive experience communicating with and building consensus among stakeholders. Since obtaining the rights to develop offshore wind projects in the United States, Equinor has worked closely with local communities, environmental justice advocates, environmental groups, supply chain representatives, researchers, and others to ensure that they all are apprised of the latest project developments, and any concerns are addressed. All of this work is done with a concerted focus on the social and economic aspects of enabling a just energy transition and ensuring that the benefits of offshore wind are shared broadly across all segments of society.

bp

For this project, bp will draw on its wealth of experience in executing integrated energy infrastructure projects in offshore environments. bp's extensive technical capabilities in energy are highly relevant to the development, construction, operation, maintenance, and decommissioning of offshore wind projects. The project is well-aligned with the direction of bp's strategy and ambitions. bp aims to be a very different kind of energy company by 2030 as it scales up investment in low carbon, focuses its oil and gas production, and makes headway on reducing emissions. With more than 20 years of experience in the renewable energy business, bp remains one of the largest operators among its peers, delivering heat, mobility, and clean electricity, while continuing to expand in areas where there are opportunities for growth. The focus is to harness the combined potential of experience and a broad mix of sustainable energy businesses, helping customers to integrate and capitalize on new technologies, products, and business models and, in turn, deliver to customers.

US Commitment

bp's commitment to the US dates back 150 years through its heritage companies. bp has a larger economic footprint in the US than anywhere else in the world. bp employs more than 12,000 people from coast to coast and supports about 245,000 American jobs. Between 2005-2021, bp invested more than $130 billion USD in the US. bp's operations contribute about $60 billion to the US economy annually.

New York

bp has more than 420 retail stations in the state of New York and is a major provider of fuel to the New York/New Jersey metropolitan region, owning a 25% interest in New York's Brooklyn terminal through a joint venture. With an office in New York City, bp's marketers and traders

work with bp's partners to buy, sell, and move energy, integrating bp's products and services to provide energy solutions for more than 3,500 North American customers annually.

bp acquired Blueprint Power ("Blueprint") in 2021, which is a US-based technology company that helps turn buildings into a flexible power network by connecting them to energy markets through cloud-based software. Blueprint's technology presents an opportunity to help decarbonize commercial real estate, help real estate owners meet their environmental goals, and give them access to new revenue streams. The company currently works with five of New York's largest commercial real estate owners that together own over 100 million square feet of property in New York City and generate 13 megawatts (MW) of renewable power. bp and Blueprint are targeting to increase this to 36 MW by the end of 2022.

Since 1987, bp dealers in partnership with bp America Inc. and the bp foundation, have been responsible for the bp annual scholarship, raising over $3 million and granting nearly 2,000 local area scholarships benefiting promising students through the commitment and support of local bp Dealers in New York City, Long Island, Westchester County, and northern New Jersey.

bp capabilities

bp's ambition is to become a net zero company by 2050 or sooner. This goal will be realized through bp's distinctive proposition and capabilities.

- **Offshore engineering & technical**: bp has extensive offshore engineering expertise, including the design and deployment of fixed and floating platforms, subsea power cables, and monitoring and protection systems. bp has ~2,500 engineers (in 38 countries, disciplines include: civil engineers, mechanical/rotating, electrical instrumentation and control, process and process safety, materials, and corrosion).
- **Procurement & supply chain management:** bp has deep engagement with the supply chain globally, currently working with over 46,000 global and diverse suppliers across 60 countries. bp is committed to developing local capabilities and capacity where it operates to ensure that it contributes to the local population and economy.
- **Large-scale project delivery & management:** bp brings decades of large-scale engineering and project management experience to the offshore wind industry. bp plans and responsibly delivers complex, capital intensive, and time-sensitive infrastructure projects safely, effectively, and efficiently.
- **Technological innovation:** bp has invested both internally in digital innovation for predictive analytics, sensors, and artificial intelligence as well as in companies such as ONYX, LYTT, and FOTECH that are 100% bp owned companies focusing on improving windfarm operations and availability.
- **Safety & environmental:** bp has experience with the range of environmental surveys required for offshore wind projects and is able to draw upon internal subject matter experts across environmental and social disciplines. bp has coordinated environmental

impact assessments and environmental monitoring and management plans for its offshore projects globally. bp has extensive experience with US onshore and offshore permitting, working closely with subject matter experts and regulators to understand concerns and ensure all permit submittals meet or exceed regulatory permitting requirements.

- **Financing:** Financial capacity for a range of funding solutions. Strong financial relationships with key offshore wind financing banks as well as in house project finance advisory and structuring expertise.
- **Advocacy & stakeholder engagement:** bp seeks to build and maintain strong relationships with local communities and stakeholders where it does business. In planning projects, bp identifies potential impacts from its activities and identifies actions and mitigations to implement in project design, construction, and operations.
- **Resourcing & services:** Expertise in hiring across a global work force. Ability to leverage Head of Country network to support advocacy and grow teams to support this activity. Willingness and ability to develop local offshore wind team, complemented by existing international technical experts.
- **Trading & Shipping:** bp has a well-established global trading & shipping business to manage, transact, supply, and hedge power and other products. Experience developing offtakes with major energy using companies and projects. Over the next decade, bp intends to scale up the platform from 250TWh today to ~500TWh through expansion into new markets and customers.

As demonstrated by NYSERDA's selection of EW1, EW2, and BW1, the Sponsors' extensive resources and capabilities confirm that Beacon Wind is uniquely qualified to work with New York to achieve the objectives set out in the CLCPA. Equinor and bp are enthusiastic about continuing to expand on its relationship with NYSERDA by drawing on established capabilities to develop, operate, and maintain BW2 to help New York achieve the objectives set out in the CLCPA.

3.5.4. Key Consultants

In addition to the key team of individuals set out above and the in-house capabilities of each partner's broader group, we have retained numerous consultants with significant experience to support the development of BW2. Key consultants include:

- **AECOM**: Beacon Wind has retained AECOM as an environmental consultant. AECOM specializes in assessing, avoiding, minimizing, mitigating, and documenting potential environmental and socioeconomic impacts associated with the construction and operations of offshore energy and development projects. Team members have led studies and executed marine and offshore surveys to support the permitting of offshore wind projects and the preparation of site assessment plans ("SAPs"), construction and

operation plans ("COPs"), as well as completing preparation of state and federal permit applications.

- **Sea Risk Solutions**: Sea Risk Solutions is supporting the development of BW2 by providing information and strategies to mitigate risks to maritime interests and resources. Sea Risk is acting as Fisheries Liaison Officer ("FLO") for BW2, including coordinating a substantial fisheries outreach effort. The founding partner of Sea Risk, Stephen Drew, spent 15 years developing and managing the Marine Liaison group for a major subsea cable supplier. He managed marine relations and risk mitigation at cable landings in 25 countries and served five years on the International Cable Protection Committee Board of Directors. He has negotiated and served as liaison officer in cable/fishing agreements on the US West Coast. His partner, Wolfgang Rain, joined Sea Risk Solutions as a Partner after nine years managing the Marine Liaison program for a major cable supplier and ship operator and brings similar professional experience to the team. Mr. Drew previously supported NYSERDA as Fisheries Liaison Officer for the New York Offshore Wind Master Plan, where he gained further experience with the northeast fisheries, especially the interaction between fisheries and offshore wind development in the New York Bight.
- **Anatec Limited**: Anatec Limited is supporting the development of BW2 by evaluating potential impacts and identifying mitigation measures associated with maritime navigation, including preparation of the Navigational Safety Risk Assessment. Anatec has extensive experience in carrying out navigation risk assessments for offshore renewable projects and for other marine users, including oil and gas developers, ports, marinas, and cable and dredging companies. Anatec's senior leadership team has over 20 years of experience working safely in marine and offshore environments and has received international recognition for its research studies concerning risk-based decision-making.
- **Mott MacDonald**: Beacon Wind has retained Mott MacDonald to provide technical and engineering services related to the proposed interconnection of the project to New York, including evaluating potential interconnection points. Mott MacDonald has provided a multi-disciplinary team including engineers, environmental scientists, project managers, and land acquisition experts with decades of experience developing large-scale energy and infrastructure projects in New York and throughout the world. The team supporting the development of BW2 has deep knowledge of New York and has been involved in large infrastructure projects throughout the state, including large independent power production facilities, interconnection facilities, substations, ports, tunnels, bridges, highways, and other civil construction projects.
- **SEARCH, Inc.**: Beacon Wind has retained SEARCH, Inc., the largest archaeology and cultural resources management company in the world, to assist with evaluating potential impacts to marine archaeological resources, including serving as the Qualified Marine Archaeologist for the project. SEARCH has completed more than 3,500 projects across 40 U.S. states and 36 countries, spanning five continents and three oceans. SEARCH

specializes in the full spectrum of cultural services related to archaeology, maritime archaeology, architectural history, history, archives, collections management, museum services, documentary media, and public affairs.

- **ICF International, Inc.**: Beacon Wind has retained ICF, a global consulting services company, to assist in developing price forecasts and evaluating the economic and social impacts of BW2. ICF has over 40 years of experience consulting in the energy industry, providing engineering consultation, economic analysis, and policy guidance to utilities, renewable energy projects, and governments around the world. ICF's team includes over 5,000 employees across more than 65 offices worldwide.
- **Wood:** Beacon Wind has retained Wood, a leader in wind measurement and analysis, to confirm the wind resource and projected output of the project. With 160 years of experience, and 35,000 professionals, across 60 countries, Wood is one of the world's leading consulting and engineering companies operating across energy and materials markets.
- [redacted]
- **SNC Lavalin:** SNC Lavalin is supporting the development of BW2 by evaluating issues related to interconnection and transmission. SNC Lavalin has over a 106-year history of working on some of the largest and most complex projects in North America ranging from major renewable energy, transmission and distribution, hydro, and nuclear projects in the Power Sector. SNC Lavalin has designed and delivered 3 GW of renewable projects in the solar and onshore wind sector, providing environmental services, preliminary and detailed design, and BOP EPC services to these projects. SNC-Lavalin has extensive experience with transmission system design, having designed over 71,000 miles of transmission lines and over 2,500 substations around the world.
- **Sargent & Lundy**: Sargent & Lundy is supporting the development of BW2 by evaluating the impact of interconnecting the project. Sargent & Lundy is a power engineering consulting company that provides a comprehensive suite of consulting, engineering, design, analysis, and project services for power projects worldwide.
- **PowerGEM, LLC**: PowerGEM, LLC is supporting the development of BW2 by evaluating the benefits associated with the Astoria interconnection point. PowerGEM, LLC is a power engineering consulting group providing expert advice, analysis, and software on the

combined economic and technical impacts of transmission congestion in competitive electricity markets. PowerGEM is staffed by engineers and software developers with advanced education in engineering, mathematics, computer science, and business, coupled with an average of 20 years of experience in this industry.

- **Arch Street Communications:** Public Engagement for Beacon Wind will be supported by Arch Street Communications, a New York women-owned business delivering strategic solutions that move infrastructure projects and public initiatives, facilitate change and drive growth. Since founding ASC in 1992, CEO Nora Madonick has led the firm to become a successful, sought-after, WBE/SBE firm working on Federal, State, and regional campaigns and initiatives that affect the lives of Americans in a changing world in the energy, transportation, jobs, safety, and the environmental sectors. The firm's proven "inside-out" approach to communication planning converts technical information into dynamic messaging with a communications process that reaches markets, stakeholders, and constituencies with compelling information and calls to action. ASC has advanced more than 90 public sector initiatives in New York State, along with projects from New York to Washington, DC, and for federal clients at USDOT and US EPA. During the pandemic, ASC developed a virtual toolkit, playbook, and website to support the public sector in community and stakeholder engagement and outreach to vulnerable and underserved populations. The initiative won a 2022 Gold Stevie Award for Women in Business.

  The firm has completed more than 90 projects in every region of New York, including, but not limited to:

  - NYSERDA Large Scale Renewables Public Engagement Strategy
  - NYSERDA NYS Climate Plan Public Hearing Series
  - South Fork Wind Farm Article VII Public Engagement Plan
  - Cricket Valley Energy/Cricket Valley Transmission Public Engagement Plans
  - Cypress Creek Renewables Public Engagement Plan
  - NYS Statewide Transportation Plan Outreach Strategy
  - Governor Mario M. Cuomo Bridge Public Engagement Plan
  - NYS Communities Rising Public Engagement Plan
  - Battery Park City North, South, and West Public Engagement Plans
  - Lower Manhattan Coastal Resiliency Public Engagement Plan

3.6. Affiliated Offshore Wind Projects

6. A listing of projects the Project sponsor has successfully developed or that are currently under construction or that the Proposer has secured financing for. Provide the following information for each project as part of the response:

a. Name of the project

b. Location of the project

c. Project type, size, and technology

d. Date of construction and permanent financing

e. Form of debt and equity financing

f. Current status of the project

g. Commercial Operation Date

h. Estimated and actual capacity factor of the project for the past three years

i. Availability factor of the project for the past three years

j. References, including the names and current addresses and telephone numbers of individuals to contact for each reference.

k. Specific members of the Project team that worked on the project

Equinor and bp have a proven track record of successfully developing, constructing, and operating offshore wind projects. The following sections provide an overview of offshore wind projects that are being developed by affiliates of Beacon Wind.

3.6.1. Jointly Developed Projects

Empire Wind

The Empire Wind Project, located south of Long Island, was selected through NYSERDA's ORECRFP18-1 solicitation in 2019 (Phase 1) and ORECRFP20-1 solicitation in 2020 (Phase 2). The wind farm is located approximately 15 miles from shore and will have a total nameplate capacity of 2,076 MW. The project will interconnect with the NYISO grid at the Gowanus substation in Brooklyn, New York (Phase 1) and the Barrett Substation in Oceanside, New York (Phase 2).

Team members also supporting BW2:

- [redacted]
- [redacted]

Beacon Wind, Phase 1

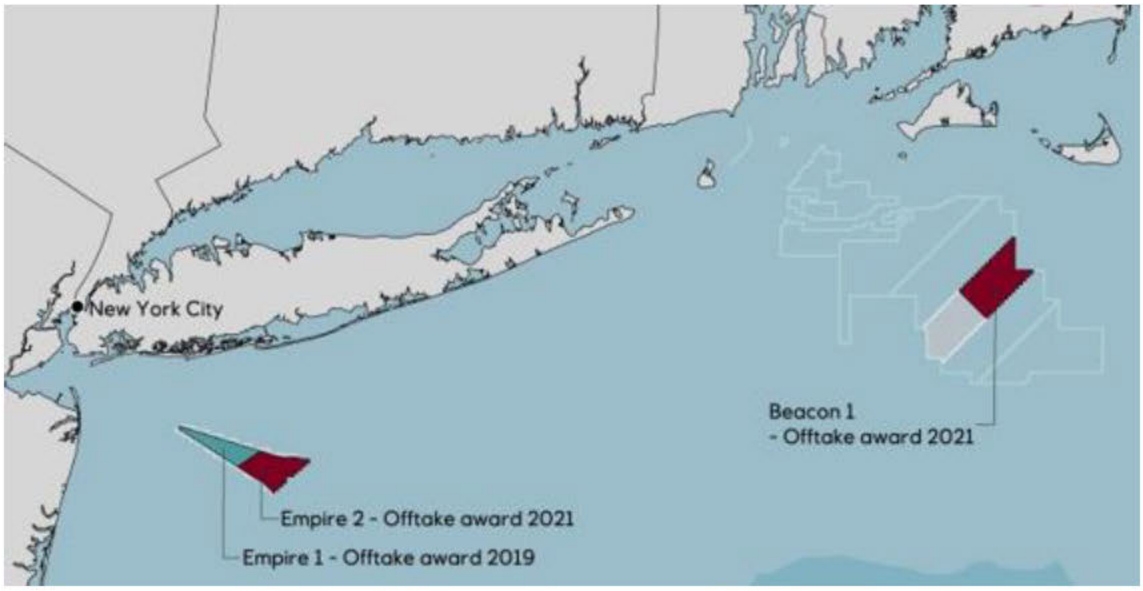
The Beacon Wind Project, Phase 1, located east of Long Island, was selected through NYSERDA's ORECRFP20-1 solicitation in 2020. This offshore wind farm is located approximately 60 miles from

the New York shoreline and will have a total nameplate capacity of 1,230 MW. The project will interconnect with the NYISO grid at the Astoria substation in Queens, New York.

Team members also supporting BW2:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

Figure 10: Jointly Developed Projects



3.6.2. Equinor Portfolio

Sheringham Shoal

The Sheringham Shoal Project, located north of Sheringham, UK, was completed in 2012. Equinor is the operator of the joint venture company Scira, which owns Sheringham Shoal. The wind farm is located 11 miles from shore and consists of 88 turbines on monopile foundations with a total nameplate capacity of 317 MW. The project is connected to the grid through two offshore substations, two offshore cables, and an onshore cable.

An extension of the Sheringham Shoal Offshore Wind Farm is currently under development which will add 317 MW of total capacity to the north of the current array. The extension project has been selected by the UK Energy Minister to progress as a "Pathfinder" under the Offshore Transmission Network Review (OTNR) designed to develop an increasingly coordinated offshore transmission network to minimize the impact on the community and the environment, reduce costs, and support the acceleration of offshore wind deployment in line with the British Energy Security Strategy.

Figure 11: Sheringham Shoal

Dudgeon

The Dudgeon Offshore Wind Farm, located north of Cromer, UK, was completed in 2017. Equinor is the operator of the joint venture company that owns Dudgeon. The wind farm is located 20 miles from shore and consists of 67 turbines on monopile foundations with a total nameplate capacity of 402 MW. The project is connected to the grid through an offshore substation and two export cables consisting of both onshore and offshore facilities. On December 14, 2018, Equinor, along with the joint owners of Dudgeon, completed a hybrid refinancing of the project totaling more than $1.7 Billion (£1.4 Billion).

An extension of the Dudgeon Offshore Wind Farm is currently under development, which will add 402 MW of total capacity to the north and southeast of the current array. The extension project has been selected by the UK Energy Minister to progress as a "Pathfinder" under the Offshore Transmission Network Review ("OTNR") designed to develop an increasingly coordinated offshore transmission network to minimize the impact on the community and the environment, reduce costs, and support the acceleration of offshore wind deployment in line with the British Energy Security Strategy.

Figure 12: Dudgeon

Arkona

The Arkona Offshore Wind Farm, located northeast of Sassnitz, Germany, was completed in 2019. Equinor and Credit Suisse Energy Infrastructure Partners each own 25% of the project, and RWE Renewables owns the remaining 50% and is operating the wind farm on behalf of the consortium. The wind farm is located 22 miles from shore and consists of 60 turbines with a nameplate capacity of 385 MW. The turbines utilize monopile foundations and are connected to the grid through an offshore substation and cables running to shore.

Figure 13: Arkona

Hywind Demo

The Hywind Demo, located west of Karmøy, Norway, was completed in 2009 and is the world's first floating wind turbine. Equinor designed and developed the project, which consists of a single turbine on a floating spar foundation anchored to the seafloor. The turbine has produced electricity for more than eleven years without any major component failures and continues to generate electricity. Over that time period, it has withstood wind speeds reaching 89 mph and waves in excess of 60 feet. Equinor operated the Hywind Demo until February 1, 2019, when ownership of the facility was transferred to Unitech Offshore. Unitech plans to use the project as a platform for teaching and training as well as research and development of new offshore wind technologies.

Figure 14: Hywind Demo

Hywind Scotland

The Hywind Scotland floating wind farm, located east of Peterhead, Scotland, was completed in 2017. Equinor designed, developed, and operates the project, which incorporates experience gained from Hywind Demo. With a total installed capacity of 30 MW, the project consists of five 6 MW turbines on floating spar foundations anchored in a water depth of 328 feet. The project consists of a mixture of available technology and new patents developed and owned by Equinor. Through this experience, Equinor continues to expand its expertise in this new model of offshore wind development. The floating wind farm is owned by Equinor and Masdar.

For three consecutive years, Hywind Scotland – the world's first floating offshore wind farm – reached the highest average capacity factor for any wind farm in the UK.

Figure 15: Hywind Scotland

Dogger Bank

Dogger Bank Wind Farm is an offshore wind farm being developed in three phases – Dogger Bank A, B, and C. Collectively, they will become the world's largest offshore wind farm. The 400,000-acre development is located 80–120 miles offshore the North East coast of England.

Each phase will have an installed generation capacity of 1.2 GW. Combined, they will have an installed capacity of 3.6 GW and will utilize turbines with capacities of 13 MW or more on monopile foundations in water depths of 65 to 114 feet. Construction started in 2020 and is planned to utilize a new generation of installation vessels with ultra-low emissions. Dogger Bank A and B phases will connect via an HVDC transmission system to the national grid near Beverley in East Riding of Yorkshire, while Dogger Bank C will connect to the grid near Redcar, in Teesside. The Dogger Bank offshore wind farm is a joint venture partnership between SSE Renewables (40%), Equinor (40%), and Eni Plenitude (20%). Equinor will operate the wind farm on completion and during its expected operational life of around 35 years.

Figure 16: Dogger Bank

Hywind Tampen

The Hywind Tampen project, located approximately 86 miles off the Norwegian coast in the North Sea, will be the world's first floating wind turbine project to provide power directly to offshore oil and gas operations. This 88 MW project will consist of 11 wind turbines on Equinor's pioneering floating offshore wind foundation technology anchored in water depths of between 260m and 300m. Power production from the first turbine started in November 2022, and another seven of the eleven turbines are scheduled tom come on stream during 2022. Even with just seven turbines on stream, Hywind Tampen will be the world's largest floating wind farm with a capacity of 60 MW.

Once complete, the project is estimated to meet about 35% of the annual power demands of five oil and gas platforms on the Snorre and Gullfaks fields. This creative approach to meeting the platforms' energy demand is expected to help reduce the use of gas turbine power on the platforms while also offsetting 200,000 tons of CO_2 emissions and 1,000 tons of NO_x emissions per year.

Figure 17: Hywind Tampen

Baltyk

Equinor is in a 50/50 joint venture with the Polish utility Polenergia in the Baltyk II and Baltyk III Offshore Wind Farms, located off the coast of Poland in the Baltic Sea. The farms have a planned capacity of 1,440 MW with the potential to power more than two million Polish households. First power for Baltyk II and Baltyk III is planned for mid-2020. Also, Equinor acquired a 50% interest in the Baltyk I license from the same partner, which allows for the development of a wind farm with a capacity of up to 1,560 MW. Equinor will operate the project through the development, construction, and operations phases.

Figure 18: Baltyk

South Korea Leases

Equinor opened its South Korean office in 2014. Currently, Equinor is pursuing the potential development of two projects in South Korea:

- Donghae Wind Farm Project – Together with the Korean National Oil Company and East-West Power, Equinor is currently exploring the possibility of developing a 200 MW floating offshore wind project in South Korea.
- Firefly Wind Farm Project – Equinor is currently exploring the possibility of developing an 800 MW floating offshore wind project off the coast of Ulsan, South Korea. In 2020, Equinor deployed LiDAR technology within the relevant lease area to collect wind resource data to evaluate potential site viability.

Japan Leases

Equinor opened an office in Japan in 2018 in preparation for offshore wind leases. New Japanese energy policies have set an ambitious target for offshore wind; the potential could be 37 GW in 2050, according to Bloomberg New Energy Finance ("BNEF"). This is the market Equinor wants to be part of, and this requires local presence. Equinor has partnered with two Japanese companies, JERA and J-Power, to work towards submitting a bid in Japan's offshore wind auction to obtain the rights to pursue bottom fixed offshore wind development.

3.6.3. Successful Project Details

Attachment 3.B provides more detailed information for each of Equinor's projects, both operating and under development, including the location, technology used, and key performance metrics, where available.

As detailed in Attachment 3.B, Equinor has funded a number of similar projects using a combination of balance sheet and external financing.

Equinor has extensive experience financing complex offshore energy projects and has demonstrated the ability to successfully finance offshore wind energy projects of size and scope similar to the proposed Project. Equinor's strategy is to create financial flexibility in every investment decision that Equinor makes. Equinor is proud of its financial strength underpinning this strategy. Its market capitalization was $115 billion at the end of Q2 2022.

Equinor has very strong liquidity (~$39 billion as of the end of Q2 2022 and forecasts a very healthy net cash flow generation underpinned by our competitive existing oil and gas activity (approximately 40 billion USD of free cash flow is forecasted to be generated over 2022-2026 based on the conservative price assumptions. Equinor has a long-standing track record in capital market issuances, with a carrying amount of its bond portfolio is excess of US$ 27 billion (Y2021). Equinor has raised and successfully received US$ 15 billion in debt funding through project

financings (including Dogger Bank A+B +C) since 2015. Our projects in operation generated 1,562 GWh of renewable energy equity production in 2021.

3.7. Key Personnel

7. A management chart that lists the key personnel dedicated to this Project, and resumes of the key personnel, and a description of key personnel experience successfully developing and/or operating one or more projects of similar size or complexity or requiring similar skill sets.

We have assembled highly qualified and experienced teams focused on supporting the design, development, construction, and operation of the Beacon Wind Project. In order to ensure the efficient and effective development of the offshore wind portfolio, both Empire Wind and Beacon Wind have been assigned a dedicated project team that is devoted to advancing the development of each respective project. [redacted]

The following sections provide an overview of the project team assigned to BW2. In addition to the individuals listed below, Molly Smith Morris is the Director of Equinor Wind US LLC and oversees both the EW and BW teams. She assumed this role in November 2022 after serving as Special Advisor, US Renewables. Ms. Morris's full biography is provided in Attachment 3.A.

A brief description of the experience of each of the members of the project team is provided below, and copies of these employees' resumes are provided in Attachment 3.C. In addition to these teams, Beacon Wind will be able to seamlessly leverage the expertise of over 4,500 additional employees, with subject matter expertise covering the full range of subjects and technical skills relevant to the development of offshore wind resources. , with subject matter expertise covering the full range of subjects and technical skills relevant to the development of offshore wind resources.

Figure 19 provides an overview of the key employees of the BW2 team.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

3.8. Partners

8. With regard to Proposer's Project Team, identify and describe, including relevant experience, the entity responsible for the following, as applicable:

a. Construction Period Lender, if any

b. Diversity, Equity, and Inclusion Officer

c. Environmental Consultant

d. EPC Contractor (if selected)

e. Facility Operator and Manager

f. Financial Advisor

g. Labor Liaison

h. Legal Counsel

i. Operating Period Lender and/or Tax Equity Provider, as applicable

j. Owner's Engineer

k. Transmission Consultant

Beacon Wind has extensive in-house capabilities and resources devoted to offshore wind development and has strong relationships with outside consultants and companies focused on supporting the development of offshore wind resources. Leveraging these relationships, Beacon Wind has engaged numerous consultants and partners with significant experience relevant to the development of BW2. Key consultants and partners include:

a. **Construction Period, Operating Period Lender, and/or Tax Equity Provider:** Further details regarding the financing of the Project is provided in Section 7.
b. **Diversity, Equity, and Inclusion Officer**: Beacon Wind does not have an assigned Diversity, Equity, and Inclusion Officer, but this role is an element of the job descriptions and responsibilities of several individuals, as further described in Section 3.4 and the associated attachments.
c. **Environmental Consultant:** Tetra Tech, SeaRisk Solutions, AECOM, Anatec, and SEARCH Inc. are providing environmental consulting services for the Project. Each of these companies has extensive experience with providing support for the permitting of large infrastructure projects, including offshore wind resources.
d. **Owner's Engineer/EPC Contractor:** As is the case with the Empire Wind Project, the procurement and development strategy for the Project will consist of multiple contracts with qualified contractors chosen through a rigorous vetting and selection process, as described further in Section 11.2. This approach has been used successful for the construction of other offshore wind projects in Europe and around the world. Beacon Wind will mandate an experienced and well-trusted company to act as lenders' technical advisor related to the project financing for the Project.
e. **Facility Operator and Manager:** Equinor Wind (or an affiliate) will be responsible for managing and operating the Project, leveraging the expertise of its parent and its affiliates in operating offshore projects around the world.
f. **Labor Liaison:** Gail Winiecki, SPHR, Leader, People & Organizations and Acting Labor Liaison, Renewables US, Equinor. Further information on Ms. Winiecki and her role can be found in the Jobs and Workforce Plan.
g. **Transmission Consultant:** Beacon Wind has engaged Sargent & Lundy, Mott MacDonald, SNC Lavalin, PowerGem, and Tetra Tech to advise Equinor on matters concerning the interconnection of BW2 to the grid and its impact on the New York transmission system.

Each of these organizations regularly advises entities participating in NYISO and other wholesale markets on transmission and interconnection issues.

h. **Legal Counsel:** [redacted]

i. **Tax Advisor:** [redacted]

3.9. Experience with NYISO Market

9. Identify the entity that will assume the duties of NYISO Market Participant for your proposed Offshore Wind Generating Facility. Provide a summary of Proposer's or Market Participant's experience with the wholesale market administered by NYISO as well as transmission services performed by Con Edison, NYPA, and PSEG-LI/LIPA.

Beacon Wind currently anticipates that it will enter into a contract with an affiliate, who would be responsible for marketing the output of the Project. While this contract will not be entered into until closer to the time that BW commences commercial operation, it is expected that this arrangement will be structured in a manner that allows BW to benefit from the extensive experience and capabilities of its parent companies, Equinor and bp. As discussed further below, both Equinor and bp have significant experience participating in wholesale markets for electricity and associated products.

3.9.1. Experience with Electricity Markets

Equinor

Developed over the 50-year life of the company, Equinor's Marketing & Trading division has a long history of analyzing market conditions and identifying opportunities to maximize the value of Equinor's portfolio of assets. [redacted]

[redacted]

[redacted]

Equinor Marketing & Trading has engaged significant resources in evaluating the NYISO markets s, including evaluating potential risks and opportunities associated with the development of the Project. In addition to leveraging the insights gained from its management of Equinor's existing offshore wind facilities, Equinor has worked with its consultants to create detailed pricing forecasts and market simulations to evaluate the commercial opportunities available to Equinor's offshore wind projects in New York, considering a range of potential scenarios and uncertainty.

The capabilities of Equinor's Marketing & Trading division were enhanced through Equinor's acquisition of Danske Commodities ("Danske") in 2019. Founded in 2004, Danske is one of Europe's largest short-term electricity traders and has extensive experience trading electricity and associated products in markets around the world. For instance, in 2021, Danske traded 375 terawatt hours of electricity across 40 markets, including all deregulated markets in the US. The integration of Danske has further strengthened Equinor's ability to optimize the value of its portfolio of assets.

Danske Commodities has accumulated a wealth of experience marketing and optimizing the value of energy, capacity, and ancillary services from renewable generation and, in particular offshore wind resources in wholesale markets. Currently, Danske is responsible for marketing electricity and associated products from Equinor's existing offshore wind projects.

[redacted]

[redacted]

BP Energy Company

bp has an established and active presence in U.S. power markets. Through its wholly owned subsidiary, BP Energy Company ("BPEC"), bp participates actively in wholesale markets for energy, capacity, ancillary services, and related products across the United States. BPEC is an active participant in the NYISO markets, where it trades energy, capacity, and transmission congestion rights. BPEC also acts as a long-term hedge provider of energy and renewable energy credits for renewable generation facilities located in the NYISO markets. BPEC also provides scheduling services on behalf of retail electric providers that are operating in the NYISO markets.

As further described in Section 3.5.2 above, subsidiaries of bp also own and operate generation resources participating in wholesale power markets across the United States. Collectively, subsidiaries of bp own and operate nine wind generation facilities accounting for approximately 1 GW of generation capacity.

3.9.2. Experience with Transmission and Interconnection

The transmission and interconnection team supporting the Beacon Wind Project is comprised of eight members with a combined 100 years of U.S. transmission and interconnection experience. The Transmission and Interconnection team has extensive experience with all ISO's and RTO's rules and processes across the US, including NYISO, ISO-NE, PJM, MISO, and CAISO. In New York, Beacon Wind and its affiliates are actively working with NYISO and the relevant transmission owners to ensure the timely interconnection of both the Empire Wind and Beacon Wind Projects.

[redacted]

3.10. Project Litigation Events

9. Disclose any pending (currently or in the past three years) litigation or disputes related to projects planned, developed, owned or managed by Proposer or parent companies in the United States, or related to any energy project sale agreement.

On September 30, 2018, the United States District Court for the District of Columbia issued an opinion granting motions for summary judgment against a coalition of parties that sought to challenge BOEM's sale of a lease area for the development of offshore wind projects off of the coast of New York. Shortly thereafter, Fisheries Survival Fund ("Fisheries") filed a motion asking the district court to alter or amend the judgment based on new evidence, namely the issuance of several power purchase agreements for offshore wind facilities proposed for areas other than off New York. Both BOEM and Equinor Wind opposed Fisheries' motion. On February 14, 2020, the court denied Fisheries' motion, ruling that the claims were not ripe. On April 13, 2020, Fisheries filed an appeal of the decision with the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit"). On May 20, 2021, the D.C. Circuit affirmed the district court's order granting summary judgment. Copies of each of these documents are provided in Attachment 3.D.

Other than this action, there have not been any litigation or disputes related to projects planned, developed, owned, or managed by Beacon Wind or any of its affiliates in the United States or related to any energy product sale agreement.

3.11. General Litigation Events

10. Describe any material litigation, disputes, claims or complaints, or events of default or other failure to satisfy contract obligations, or failure to deliver products, involving Proposer or a parent company, and relating to the purchase or sale of energy, capacity or RECs or other electricity products.

Beacon Wind and its affiliates have not been the subject of any significant, relevant, and adverse litigation, disputes, claims or complaints, events of default, or failure to satisfy contract obligations, or failure to deliver products relating to the purchase or sale of energy, capacity, or RECs or other electricity products.

3.12. Investigation Disclosure

11. Confirm that Proposer, and the directors, employees and agents of Proposer and any parent company of Proposer are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction involving conspiracy, collusion or other impropriety with respect to offering on any contract or have been the subject of any debarment action (detail any exceptions).

Beacon Wind, its parents, affiliates, directors, the key employees described above, and agents are not the subject of any significant, relevant, and adverse investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction involving conspiracy, collusion, or other impropriety with respect to offering on any contract and have not been the subject of any disbarment action.

4. PROJECT DESCRIPTION AND SITE CONTROL

Identify the BOEM wind energy area where the proposed Offshore Wind Generation Facility will be located. Provide documentation that Proposer has a valid lease or irrevocable lease option to develop the leased area within this wind energy area over the entire Contract Tenor.

Provide a site plan (or plans) including a map (or maps) that clearly identifies the location of the proposed Offshore Wind Generation Facility, collection facilities, offshore substation and Meshed Ready facilities, offshore and onshore route of the generator lead line to the interconnection point, converter station(s), and the assumed right-of-way width. Identify the anticipated Injection and Delivery Point(s), support facilities, and the relationship of the Injection and Delivery Point(s) to other local infrastructure, including transmission facilities, roadways, and waterways.

Identify any rights that Proposer or its development partner has at the Injection and Delivery Point(s) and for the generator lead line right of way. identify any additional rights that are necessary for interconnection and for the generator lead line right-of-way.

The site plan should also illustrate the location of all onshore and offshore equipment and facilities and clearly delineate the turbine array and perimeter of the area in which offshore wind turbines will be placed.

For Offshore Wind Generation Facilities that contribute less than 1,000 MW to the Proposal's Offer Capacity, provide the turbine capacity density assumptions used to arrive at the Offer Capacity as representing the maximum available capacity from the lease area.

4.1. Lease Area and Project Overview

As discussed above, the Beacon Wind Project is being developed in a lease area located off the coast of New York. Figure 20 below depicts the location of the Project lease area relative to New York.

[redacted]

The design and construction of BW2 has been calibrated to optimize production from the facilities and ensure that the objectives outlined in the CLCPA are met as efficiently and cost-effectively as possible. [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

Beacon Wind is developing the two-phased Beacon Wind Project in the New England Wind Energy Area, a federal offshore wind lease area located east of Long Island and southeast of Massachusetts. Similar to the New York Wind Energy Lease Area, the New England Wind Energy Area is in close proximity to New York and was designated for the development of offshore wind resources through the same extensive multi-step evaluation process. The lease area spans approximately 200 mi^2 and is estimated to be capable of supporting the development of [redacted] of installed generation capacity. A copy of Beacon Wind's offshore wind lease, Lease number OCS-A 0520 is provided as Attachment 4.A.

[redacted]

For the development of BW2, Beacon Wind intends to build on the solid foundation established by EW1, EW2, and BW1 to maximize the value delivered to New York ratepayers. [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

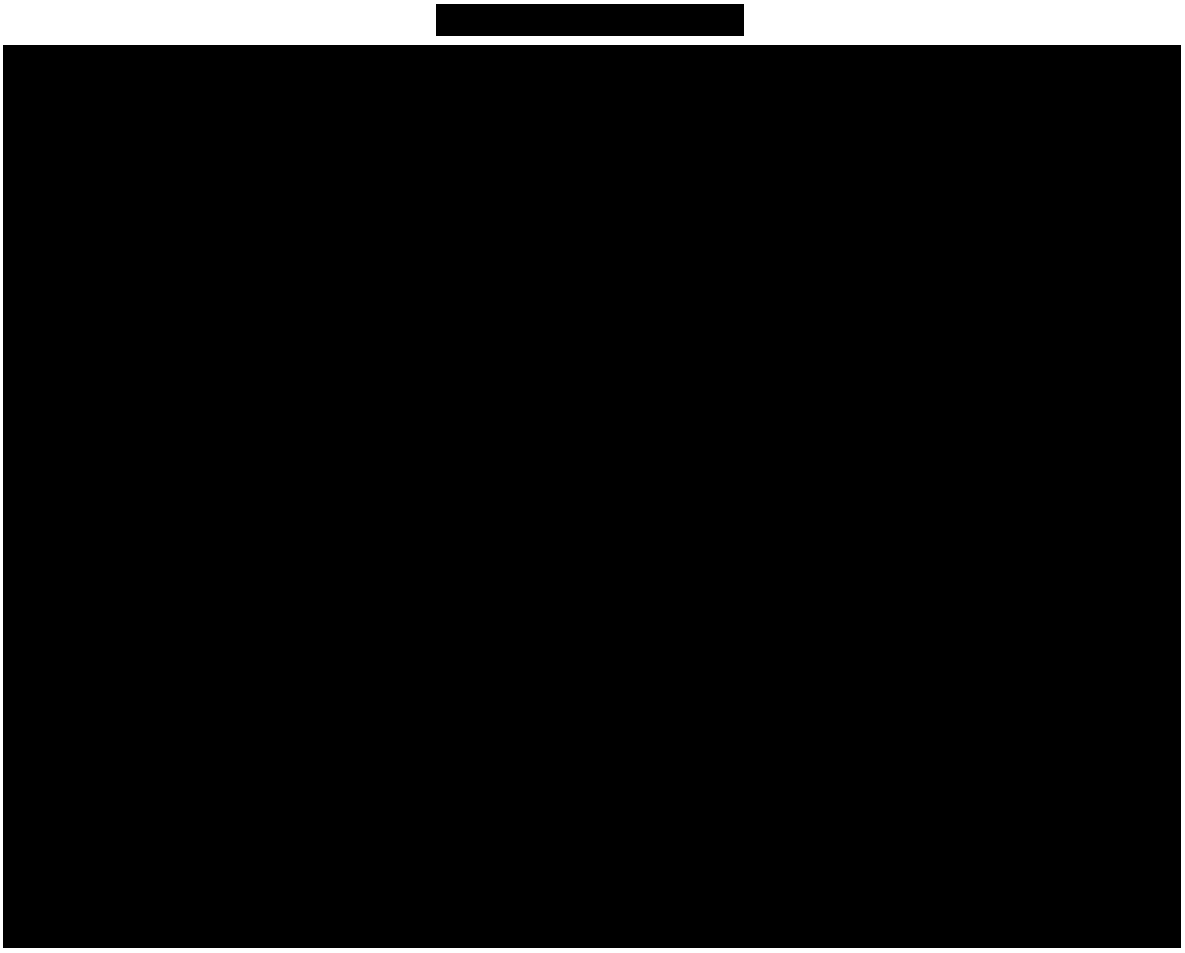


Figure 23 below provides a high-level schematic that reflects the arrangement and layout of the BW2 project components.

[redacted]

4.2. Overview of Major Project Components

The following sections provide an overview of the major components of the Project. Further detail on the proposed technology for the Project can be found in Section 11.1. Detail concerning the staging and construction of these components can be found in Section 13.4.

4.2.1. Wind Turbine Generators and Offshore Collection Facilities

[redacted] The layout of the project has been designed in close collaboration with developers in the New England wind energy area and various stakeholders – including representatives of the fisheries, maritime navigation, and ocean resources communities – to promote the successful coexistence of current and proposed uses across all projects within the wind energy area. As further described in Attachment 4.B, the layout of BW has been endorsed by the U.S. Coast Guard to accommodate search and rescue activities in the lease area. As described in the Fisheries Mitigation Plan, this layout has been influenced

by various considerations related to the preservation of fisheries resources, commercial fishing, and navigational safety. Figure 24 below provides the anticipated layout of BW2.

[redacted]

4.2.2. Offshore Cable Route

Beacon Wind has evaluated a variety of potential submarine cable routes to determine the best cable route to various landfall locations. These efforts have included extensive consultation with New York State and Federal agencies as well as a detailed study of potential cable routes. This analysis compiled information regarding existing constraints and site characteristics to determine the optimal set of potential paths from the lease area to the landfall location. These paths were developed to respect existing uses by avoiding known conflict areas, mitigating any potential impacts that could not be avoided, and incorporating information received from stakeholder discussions and surveys. As such, the offshore cable route selected for the Project was designed to minimize environmental impacts by developing the shortest overall route that would avoid major offshore and onshore constraints while also optimizing the value of the project.

[redacted]

4.2.3. Interconnection Point and Landfall Location

[redacted]

4.3. Land Acquisition

Beacon Wind has already taken substantial steps toward acquiring the property rights necessary for the development and construction of the Beacon Wind Project.

4.3.1. Federal Waters

As a condition of the executed lease agreements for BW, Beacon Wind will receive easements necessary for the full enjoyment of the lease, including easements necessary for the purpose of installing transmission and distribution cables associated with the project.[14] [redacted]

4.3.2. State Waters

For the portion of the export cables within state waters, Beacon Wind will need to obtain an easement from the New York State Office of General Services, Bureau of Land Management. A complete description of state permitting requirements is provided in Section 10.1.2.

4.3.3. Onshore Export Cables and Substation

[redacted]

[14] 30 C.F.R. § 585.200(b).

5. ENERGY RESOURCE ASSESSMENT AND PLAN

Provide a summary of all collected wind data for the proposed Offshore Wind Generation Facility site. Identify when and how (e.g., meteorological mast or LiDAR – for "Light Detection and Ranging") the data was collected and by whom.

Beacon Wind has leveraged the extensive capabilities of Equinor's Metocean Department to assess the wind resource capabilities of BW2. Equinor's Metocean Department has decades of experience analyzing metocean data in order to determine the optimal design and layout for Equinor's offshore wind resources, including wind speed and direction, wave height and direction, temperature, salinity, extreme weather events, and other factors that can have a significant impact on the design, operation, maintenance, and life of offshore energy projects. Through this experience, Equinor's Metocean Department has developed a set of best practices and models that it employs to evaluate and analyze every aspect of developing, operating, and maintaining offshore energy projects. In fact, Equinor's Metocean Department took the lead in developing the publicly available Metocean Reference Extreme Software, which is widely used within the metocean community for analysis of extreme conditions and as a benchmark for verifying the accuracy of metocean software.

As described below, Equinor's Metocean Department, in collaboration with its consultants Kjeller Vindteknikk AS ("KVT") and Wood Group, has extensive information about the BW2 offshore wind lease area. This information is a combination of historical information from industry-recognized data sources and onsite wind measurements that have been conducted by Beacon Wind and its affiliates since obtaining the lease areas. Beacon Wind plans to supplement this information with additional survey campaigns and onsite measures. Collectively, the information that has been collected and evaluated by Equinor's Metocean Department, KVT, and Wood Group provide a sound basis for estimating the wind resource potential of the Project.

The wind resource assessment reports submitted in support of Beacon Wind's proposals were prepared by Wood Group with input from Equinor's Metocean Department. Wood group has more than 20 years of experience delivering climate and wind analysis solutions for the wind energy sector. Wood Group's assessments are provided in Attachment 5.A.

5.1. Data Sources

Indicate where the data was collected and its proximity to the proposed Offshore Wind Generation Facility site. Include an identification of the location and height for the anemometers and/or "range gate" heights for sensing by LiDAR that were used to arrive at an assessment of the site generation capability. Describe any additional wind data collection efforts that are planned or ongoing. Provide at least one year of hourly wind resource data in a working Excel file (the required Wind Resource Data attachment). Data collected from the site is preferred, though projected data is permissible. The method of data collection must also be included.

5.1.1. Current and Ongoing Data Collection

[redacted]

[redacted]

[redacted]

One year of hourly wind data for the Project location is provided in Attachment 5.B.[redacted]

[redacted]

5.2. Wind Resource Assessment

Provide a wind resource assessment report for the Proposed Offshore Wind Generation Facility site. Include an analysis of the available wind data which addresses the relationship between wind conditions and electrical output. Provide a site-adjusted power curve. Each curve should list the elevation, temperature and air density used.

[redacted]

5.2.1. Power Curve and Wind Data

[redacted]

5.2.2. Annual Energy Production Estimate

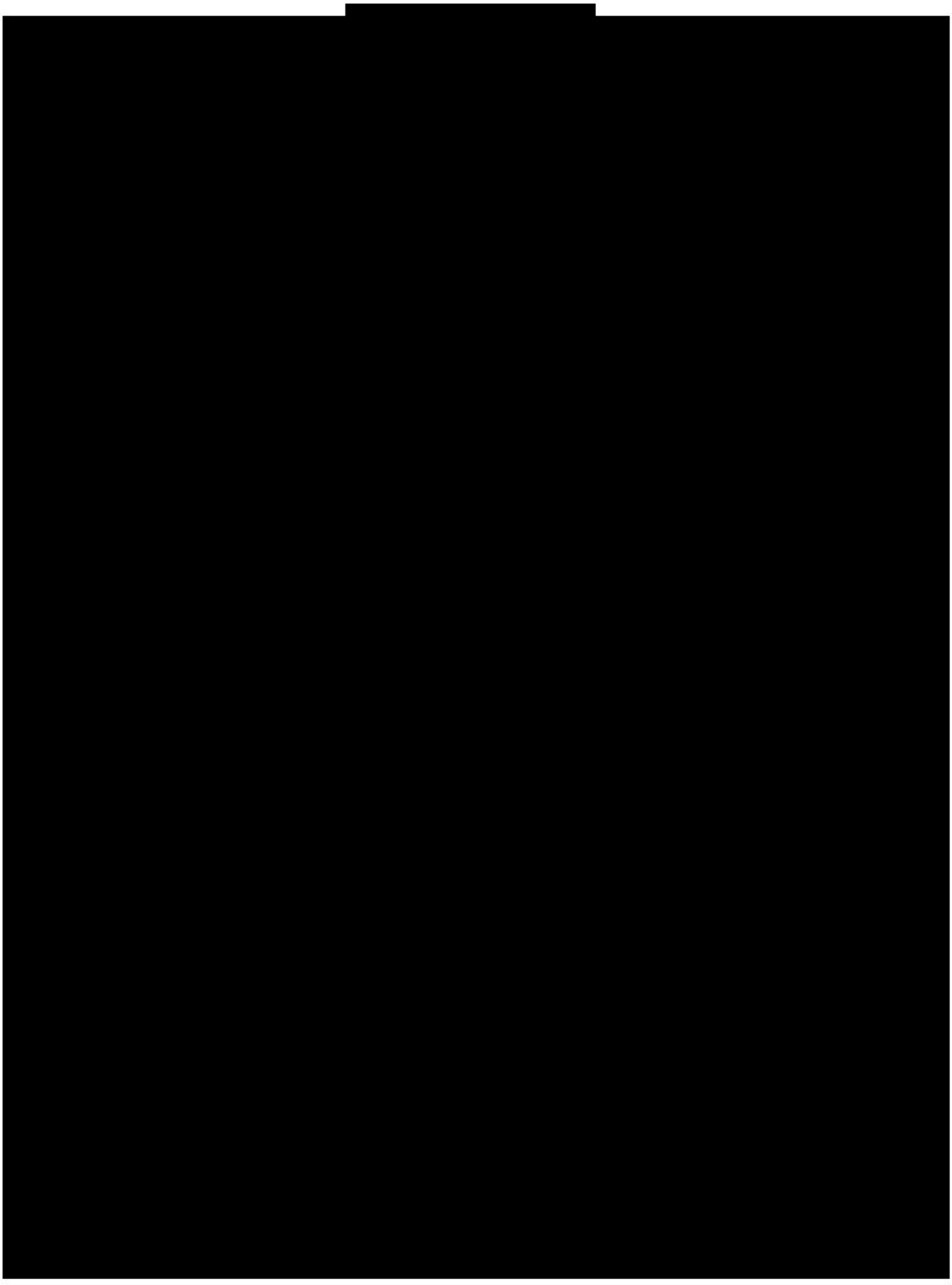
Provide a justification for the selected P10 Annual OREC Exceedance value based in the Wind Resource Data for the Project. Provide the basis for the delivered energy profile presented in Part III of the Offer Data Form relative to the P50 generation profile, including a reasonable assessment of potential/expected curtailment in addition to losses. Describe measures to identify and control the regulatory and operational risks related to the delivery of energy from the Offshore Wind Generation Facility.

Wood Group developed a WindFarmer model that was used to calculate the gross Annual Energy Production ("AEP") at each proposed WTG location. An ensemble of wake models suited to the offshore environment was used to calculate wake losses, including consideration of multiple proposed neighboring wind farms.

Vortex mesoscale model was used to perform spatial extrapolation. Hub height wind speed predictions at the WTG locations demonstrate limited variation across the Project area. [redacted]

[redacted]

[redacted]



5.2.3. Assessment Approach

In Attachment 5.A, Wood Group describes the method used to estimate the uncertainty in the production estimates and, consequently, the confidence intervals, including P10. The total uncertainty in the production number is calculated by assessing the uncertainty in all underlying assumptions and estimations, after which they are combined to quantify the total uncertainty. For example, the various sources of uncertainty in the wind resource itself are identified and quantified, either by calculation or estimation based on judgment and experience. The same principle is applied to quantify the uncertainty in all losses. After combining all uncertainties, the production numbers (Pxx) with xx% probability of exceedance are calculated. For example, the P90 is the production number which is 90% likely to be exceeded. Similarly, the P10 has a 10% likelihood of being exceeded. The uncertainty analysis, methods, and numbers are described in detail in Attachment 5.A.

5.3. Curtailments and Losses

For the purpose of calculating Net AEP, gross production was adjusted to take into account the potential for energy losses associated with turbine availability, electrical efficiency, turbine performance, environmental conditions, global blockage effects, and curtailments. A more detailed explanation of how Wood Group arrived at these values is provided in Attachment 5.A.

[redacted]

6. OPERATIONAL PARAMETERS

Provide partial and complete planned outage requirements in weeks or days for the Offshore Wind Generation Facility. Also, list the number of months required for the cycle to repeat (e.g., list time interval of minor and major overhauls, and the duration of overhauls).

Provide all the expected operating constraints and operational restrictions for the Project, the reason for the limitation, and characterize any applicable range of uncertainty.

Beacon Wind is committed to ensuring that its project can safely and reliably deliver offshore wind to New York over the operational life of the project. The objective of ensuring safe and reliable operations of the Project informs every aspect of project design, construction, and operations—from the selection of best-in-class technologies that have been shown to operate reliably under the harshest conditions to employing operation and maintenance approaches that have been refined over decades of offshore project experience. Motivated by an unwavering commitment to excellence, Beacon Wind and its affiliates are committed to operating their projects in a manner that is safe, maximizes project availability, reduces costs, and is environmentally responsible

The sections below provide more information about anticipated operation and maintenance activities at BW2. Given that a subsidiary of Equinor will be responsible for the operation and maintenance of the Beacon Wind Project once it commences commercial operation, the discussion below focuses on Equinor's experience and approach to O&M, including how it is taking into account the objectives set out in the CLCPA in designing the O&M strategy for BW2. However, Beacon Wind also will be able to call upon the expertise and capabilities of bp personnel with experience operating and maintaining large offshore energy projects.

6.1. Equinor's Operations and Maintenance Experience and Approach

The success of Equinor's approach to O&M is highlighted by its demonstrated track record of operating and maintaining offshore wind farms that maximize project availability and efficiency. Equinor is currently responsible for operation and maintenance activities at its Sheringham Shoal, Dudgeon, and Hywind Scotland projects and is in the process of delivering the operational model for the Dogger Bank Offshore Wind Project. [redacted]

In January 2020, Equinor undertook a reorganization of its New Energy Solutions business unit to prepare to deliver on the company's ambitions and commitments towards achieving a low carbon future. The new organization structure was set up to position the company for rapid growth in renewable and low carbon projects, including offshore wind. The restructuring has

resulted in increased capability and capacity to efficiently handle multiple large-scale offshore wind projects, along with a clear matrix to transfer knowledge and experience between global offshore wind projects. This reorganization will ensure that Equinor's experience and lessons learned in connection with the operation of its projects across the globe will be brought to bear in the operation and maintenance of BW2.

[redacted]

[redacted]

Equinor's "hands-on" approach to operation and maintenance provides Equinor with the insights necessary to ensure that the Project will be operated in a way the supports the objective of reducing emissions associated with project operation. Beacon Wind plans on leveraging Equinor's experience to ensure that BW2 is operated in a manner that supports the goals embodied in New York's CLCPA. For instance, Equinor is currently considering a number of strategies to reduce the carbon footprint of BW2:

- [redacted]
- [redacted]

- [redacted]
- [redacted]

In addition to the low carbon initiatives that Equinor is developing globally, there are other initiatives being developed within the industry that Equinor continues to monitor and will look for opportunities to integrate into its projects, including Beacon Wind. One such example is [redacted]

6.2. Operations and Maintenance Protocols

6.2.1. Monitoring and Staffing

Continuous monitoring is a foundational principle of Equinor's approach to O&M for Beacon Wind and has been successfully employed at Equinor's existing offshore wind projects. For instance, Equinor currently operates a 24/7 control room responsible for monitoring the performance and operations of its existing offshore wind generation facilities. Equinor also has extensive experience operating 24/7 control rooms in connection with its offshore oil and gas facilities. Typically, an offshore wind farm control room includes sophisticated supervisory control and data acquisition ("SCADA") systems, high voltage switching, marine communication and monitoring systems, and other systems that ensure that Equinor is able to continuously monitor its projects and support its personnel and vessels.

[redacted]

The operations center will accommodate 24/7 operations and will be responsible for planning and coordinating O&M activities for BW2. Among other things, the control center will be responsible for:

- Coordinating maintenance activities, including determining start and end times and maintaining records of maintenance activities;
- Providing an initial response to emergency situations, contacting on-site personnel, and activating appropriate emergency plans and protocols;
- Monitoring site conditions, including identifying threats from lightning and ensuring that all work is performed in a manner that maintains the health and safety of onsite personnel;
- Tracking and coordinating all maritime activities related to O&M of the Project and tracking the movement of all employees and O&M vessels using an automatic identification system;
- Ensuring a quick response to alarms, faults, and other events involving the wind turbines and associated interconnection facilities;
- Remotely monitoring the wind turbines and other major project components;
- Performing remote switching of electrical components in accordance with Equinor protocols and safety rules;
- Coordinating outages with NYISO in accordance with applicable market rules; and
- Acting as the point of contact with NYISO.

Figure 29 below depicts a typical Equinor Operations Building.

Figure 29: Operations Building for the Dudgeon Offshore Wind Project

[redacted]

[redacted]

BW2 will also have direct access to the same institutional knowledge and back-office engineering and technical support as other operational Equinor projects, allowing experience and knowledge transfer to be captured from European and other global offshore wind markets.

6.2.2. Emergency Preparedness

Beacon Wind is committed to providing a safe and secure environment for everyone working on the Project. Equinor's approach to O&M is founded upon the goal of ensuring "zero harm," and Beacon Wind and its affiliates continuously work to foster a culture of safety and security in everything the group does. The support personnel for the Project will be well-equipped to deal with any emergency situations that may arise during project operation and will employ emergency response procedures based on industry best practices and both Equinor and bp's experience with onshore and offshore energy projects around the world. Equinor, as service provider, will employ standard operating procedures that will be developed consistent with applicable regulations. These will include a Safety Management System and the Emergency Response Plan, which will detail emergency procedures for various emergency scenarios, including a communication plan to adequately inform federal authorities and at-risk users (*e.g.*, vessel operations in proximity to an emergency). These documents were initially drafted as part

of the COP for the Project and are subject to review and approval via the NEPA process. Prior to preparing the Plan, an Emergency Preparedness Analysis will be prepared. As they are "living" documents, they will be reviewed and updated on a regular basis to reflect actual, applicable scenarios and response resources.

Using an SOV to house O&M personnel also will ensure that Equinor is able to respond in real-time to emergencies that arise at the Project site. Equinor expects that the SOV will be fully equipped with a medical facility, including trained medical personnel, and access to onshore doctors and medical support, as necessary. The on-site team also will have a dedicated team with a fast response craft that will be trained to address a range of emergency situations, including "man overboard" situations and other life-threatening emergencies. These employees will be trained on a regular basis to ensure that they are prepared to respond to emergencies should they arise.

The control room will also be equipped with remote monitoring and control systems that will allow the Project to cease operations in the event of equipment failure or other conditions necessitating the shutdown of the wind turbine generators. For instance, the control room will employ remote monitoring systems that will automatically shut down the wind turbine generators in response to certain errors or fault codes. In addition, this system will allow Equinor, as operator, to continuously monitor turbine performance, including looking for signs of vibrations or operational abnormalities, and curtail production, if necessary. In addition, the Project will be fully integrated within, and be able to draw upon, Equinor's broader emergency and crisis response organization.

Equinor has a robust emergency and crisis management team, developed over decades of offshore operations, that is well-versed in carrying out emergency operations, which will benefit Beacon Wind through Equinor's role as operator. This includes a Global Management Assistance Team ("GIMAT") consisting of personnel that are trained in effectively responding to emergency situations and can be deployed across the globe to assist Equinor project sites. The GIMAT's approach to emergency response builds upon the Incident Command System, a U.S.-developed approach to command, control, and coordination of emergency response. The GIMAT will be available to and can be called upon by the Project to provide additional resources when necessary to support emergency operations.

6.3. Maintenance Schedule and Duration

6.3.1. Planned Outages

Planned maintenance outages will be scheduled in a manner designed to both maximize the safety of maintenance operations and minimize the disruption to the output of the facility. In order to maximize the output of the facility, planned outages will be scheduled during periods in which potential production is at its lowest (typically summer season/low wind seasons) and will

be coordinated with NYISO in accordance with its tariff to minimize the potential reliability impacts of outages.

The following subsections provide a brief overview of the frequency of maintenance required for key project components and Attachment 6.A provides an estimate of the maintenance schedule for BW2.

[redacted]

6.3.2. Forced Outages

As a general matter, forced outages can occur at any time of the year in response to unexpected equipment failures, physical damage to the facility, requirements from appropriate authorities, and other factors creating a need for unplanned maintenance or repairs. As noted above, Equinor will be establishing a detailed operations and maintenance program on behalf of Beacon Wind that will detail inspection procedures and frequencies based on manufacturers' recommendations, best practices, and industry experience. Equinor will continuously monitor

the Project from a control room. This information will be used by Equinor to constantly analyze equipment performance and proactively identify and avoid equipment failures that could adversely affect the performance of the Project. To the extent that a failure occurs, the close proximity of maintenance personnel and spare parts on the SOV will ensure that equipment can be repaired and replaced as quickly as possible to minimize downtime. In the event that a forced outage occurs, Equinor will communicate the issue, as required, to the appropriate authorities (*e.g.,* NYISO).

7. BUSINESS ENTITY AND FINANCING PLAN

Proposers are required to demonstrate the financial viability of their proposed Project. A narrative description of the financing plan should be included in the Proposal Narrative. Detailed supporting information, including financial statements and other documents, should be included in the required Financing Plan attachment.

As described above, Beacon Wind is an indirect wholly owned subsidiary of Equinor and bp—companies that have an unparalleled ability to execute the Project given their combined financial strength and stability. [redacted]

Given the resources of its parents, Beacon Wind has flexibility regarding how to finance the construction of the Beacon Wind Project. [redacted]

7.1. Financial Outlook

1. Submit information and documentation that demonstrates that a long-term contract resulting from this RFP process would either permit Proposers to finance Proposals that would otherwise not be financeable or assist Proposers in obtaining financing of its Proposal.

[redacted]

7.2. Financing Plan

2. Provide a description of the Financing Plan for the Project, including construction and term financing. The Financing Plan should address the following:

a. Who will finance the Project (or are being considered to finance the Project) and the related financing mechanism or mechanisms that will be used (i.e., convertible debenture, tax or contingent equity, other) including repayment schedules and conversion features

b. Project's existing initial financial structure and projected financial structure

c. Expected sources of debt and equity financing

d. Describe how any such agreements would differ, contingent on NYERDA's selection of a specific Proposal (e.g., Fixed OREC vs. Index OREC , SCIP or Standalone, Inflation Adjusted or not inflation Adjusted)

e. Estimated construction costs, including identification of the costs associated with Meshed Ready design, and identification of costs associated with transmission

f. Projected capital structure during construction and operation.

g. Describe any agreements, both pre and post Commercial Operation Date, entered into with respect to equity ownership in the proposed Project and any other financing arrangement.

A financing plan covering BW2 is provided in Attachment 7.A.

7.3. Financial Resources and Strength

3. Provide evidence that Proposer has the financial resources and financial strength to complete and operate the Project as planned.

[redacted]

7.3.1. Equinor

Equinor ASA is an international energy company, headquartered in Norway, that has operations in over 30 countries and more than 21,000 employees worldwide. Equinor ASA is listed on the New York and Oslo stock exchanges and has a current market capital valuation in excess of $115 billion.[15] Equinor ASA is the largest operator on the Norwegian continental shelf, and a license holder in numerous oil and gas fields worldwide.

The development of BW2 is an extension of Equinor's broader commitment to support the energy transition through significant investments in renewable and low-emissions energy

[15] Valuation as of June 30, 2022.

sources. Equinor ASA and its affiliates are committed to complementing its existing energy portfolio with an expanding fleet of renewable energy and other low-carbon solutions. Equinor ASA currently expects more than 50% of its gross capex spend will be directed towards renewable and low-carbon energy solutions by 2030. Equinor ASA has already demonstrated a major financial commitment to the development, construction, and operation of offshore wind resources with the development of its existing offshore wind fleet.

Equinor ASA's and Equinor US's ample financial resources and strong credit ratings ensure that these companies have access to the capital markets.

- **US Shelf Registration Statement**: Equinor ASA has filed a shelf registration with the U.S. Securities and Exchange Commission. This filing permits Equinor ASA to engage in multiple public offerings without developing a separate prospectus for each offering. [redacted]
- **Euro Medium Term Note Programme**: Established in 1997 and listed on the London Stock Exchange, the program ensures Equinor ASA access to non-US markets. [redacted]

[redacted]

Equinor has successfully employed project financing in connection with a number of its existing offshore wind project, including Dudgeon, Dogger Bank, and the plans for Baltyk II and III. [redacted]

7.3.2. bp

[redacted]

bp's financing experience and expertise have been developed through advising BP Group and its businesses as well as structuring and executing financing instruments and credit support for BP Group and its businesses, including project finance, joint venture financing, working capital financing, leasing, and guarantees, among others.

7.4. Insurance

4. Describe the planned insurance program, including how climate-related physical risks are factored into the insurance deductible and if added resilience measures or design and construction features taken to strengthen the ability of the Project to handle climate shocks or stresses may act to lower insurance premiums or deductibles.

[redacted]

[redacted]

7.5. Inflation

5. Proposer's estimate of inflation using an index or indices that are relevant to the Project's construction and operations costs.

[redacted]

7.6. Role of PTC or ITC

6. Describe the role of the Federal Production Tax Credit or Investment Tax Credit (or other incentives) on the financing of the Project, including presumed qualification year and percentage

and estimated eligible capital expenditures. Provide an explanation for the assumed ability or inability to qualify for the Federal Production Tax Credit or Investment Tax Credit. The Proposal may not be contingent on receipt of the Production Tax Credit or Investment Tax Credit. Refer to Section 2.1.5 and to Section 5.07 of the Agreement for the Bid Price adjustment related to receipt of Project Qualifying Federal Support.

[redacted]

7.7. Financial Statements and Annual Report

7. Provide complete copies of the most recent audited financial statement and annual report for each Proposer for each of the past three years; including parent companies of Proposer (if audited statements are not available, reviewed or compiled statements are to be provided). Also, provide the credit ratings from Standard & Poor's and Moody's (the senior unsecured long term debt rating or if not available, the corporate rating) of Proposer and any parent companies and development partners.

As Beacon Wind is a special purpose company set up explicitly for the Beacon Project, it does not have any credit ratings or financial statements at this time.

7.7.1. Equinor

Copies of the financial statements of Equinor ASA for the past three years are provided as Attachment 7.C. In addition, the consolidated financial statements of Equinor US Holdings for the past three years are provided in Attachment 7.D.

The current credit ratings of Equinor ASA and Equinor US Holdings with Moody's and Standard and Poor's are set forth below in Figure 31.[16]

[redacted]

[redacted]

7.7.2. BP

Copies of the financial statements of BP p.l.c. for the past three years are provided as Attachment 7.E. In addition, the consolidated financial statements of BP Corporation North America Inc. for the past three years are provided in Attachment 7.F.

The current credit ratings of BP p.l.c. and BP Corporation North America Inc. with Moody's and Standard and Poor's are set forth below in Figure 32.

[redacted]

[redacted]

[redacted]

7.8. Security Capability/Plan

8. Demonstrate Proposer's ability (and/or the ability of its credit support provider) to provide the required security, including its plan for doing so.

Equinor's and bp's strong financial ratings and assets will ensure that Beacon Wind has ready access to letters of credit, parental guarantees, and other forms of security necessary to meet its contractual obligations. In particular, Equinor and bp have access to letters of credit or bank guarantees through bilateral agreements with a number of reputable international banks and regularly provide parental guarantees as necessary to support the ongoing activities of their subsidiaries. As with the existing PSAs for EW1, EW2, and BW1, Beacon Wind anticipates that any security necessary to satisfy credit obligations under agreements awarded as a result of this solicitation would be supported by parental guarantees.

7.9. Credit Events

9. Provide a description of any current or recent credit issues/ credit rating downgrade events regarding Proposer or parent companies raised by rating agencies, banks, or accounting firms. Provide information regarding any exposure of the Proposer, and/or parent companies including joint ventures to adverse events related to investments and other activities in Russia. Discuss corporate withdrawals from investments in Russia, the impact of write-offs, write-downs and/or related impairment charges and government sanctions arising from the conflict in Ukraine affecting the Proposer, parent companies and/or joint venture participants, including limited liability corporations.

[redacted]

[redacted]

7.10. Project Lifetime Expectations

10. Provide the expected operating life of the proposed Project and the depreciation period for all substantial physical aspects of the offer, including generation facilities, generator lead lines to move power to the grid, and transmission system upgrades.

[redacted]

Each of the facilities described above will be depreciated in accordance with applicable IRS requirements.

7.11. Project Credit Events

11. Details of any events of default or other credit/financial issues associated with all energy projects (other than those under contract with NYSERDA), in which the Proposer (and other equity partners), its parent companies, and directors, officers, and senior managers of those entities, participated over the past three years.

[redacted]

8. INTERCONNECTION AND DELIVERABILITY

Proposers are required to demonstrate the Offshore Wind Generation Facility's interconnection status and deliverability capabilities. A narrative description of the Interconnection and Deliverability Plan should be included in the Proposal Narrative. Detailed supporting information should be included in the required Interconnection and Deliverability Plan attachment.

8.1. Interconnection Plan Overview

As discussed further in the Interconnection and Deliverability Plan provided as Attachment 8.A, Beacon Wind has conducted an extensive analysis using a range of technical, commercial, and environmental factors in order to select the points of interconnection for the Project. This evaluation included:

- [redacted]
- [redacted]

[redacted]

[redacted]

8.1.1. Interconnection Point

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]

[redacted] Further detail concerning Beacon Wind's Interconnection and Deliverability Plan, including detail relevant to Article VII, can be found in Attachment 8.A.

9. FOSSIL REPURPOSING PROPOSAL

A narrative description of the Fossil Repurposing Proposal should be included in the Proposal Narrative. Proposers are required to submit a plan for conversion of the existing facility explaining what the new purpose or function of the infrastructure would be as a separate file.

To demonstrate usage rights and authority to carry out the repurposing, the Proposer of any Fossil Repurposing Proposal must provide an executed agreement or letter of intent with the owner(s) of the relevant fossil-based electric generation infrastructure.

The Fossil Repurposing Proposal must lay out a clear plan and timeline for implementation, including obtaining regulatory approvals, prior to the Project's commencement of operations. Given uncertainties with respect to the rapidly evolving energy industry and regulatory environment, as further described in Section 3.2.10, NYSERDA requires Proposers to include contingency plans in the event that the proposed Affected Resource is retained for reliability needs or any of the Fossil Repurposing Proposal is delayed or unable to be completed prior to the Project's commencement of operations (for example, if regulatory approvals are not obtained by such time). Contingency plans for Fossil Repurposing Proposals should include a clear plan and timeline, including obtaining regulatory approvals. Due to the complexities and uncertainties around Affected Resources, Proposers are encouraged to submit an Alternate Proposal which does not include a Fossil Repurposing Proposal.

Proposers should consider and explain the impact of state and federal interconnection requirements on their proposal, including applicable generator interconnection requirements contained in the NYISO's tariffs and PSC regulations (including, to the extent applicable, Attachments P S, X and Z of the NYISO Open Access Tariff and the Transmission Expansion and Interconnection Manual).

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

10. ENVIRONMENTAL ASSESSMENT AND PERMIT ACQUISITION PLAN

10.1. Permits, Licenses, and Environmental Documentation List

1. Provide a comprehensive list of all the permits, licenses, and environmental assessments and/or environmental impact statements required to construct and operate the Project. Along with this list, identify the governmental agencies that are responsible for issuing approval of all the permits, licenses, and environmental assessments and/or environmental impact statements. If a Proposer has secured any permit or has applied for a permit, please indicate this in the response.

3. Provide the SAP and COP, if completed. If the SAP and/or COP are not completed, provide the status of development of these plans a proposed plan and timeline for completion.

Beacon Wind has reviewed federal, state, and local permitting requirements in detail in order to identify the regulatory frameworks governing the construction and operation of BW2. As noted in Section 4, the project will be located in federal waters and interconnected to the NYISO.

The Environmental Assessment and Permit Acquisition Plans ("Plans") provide a summary of the information required for each applicable regulatory approval, as well as a strategy for obtaining these approvals, including efficient coordination among agencies to facilitate a more streamlined permitting timeline. The Plans are supported by comprehensive environmental and technical assessments that are either in process or planned. Additional details are provided in the permitting matrix provided for BW2 in Attachment 10.A. Details on the timeline and associated milestones for these Plans have also been incorporated into the project schedule discussed in Section 12.1.

The permitting requirements discussed herein include those permits required to carry out the Fossil Repurposing Plan outlined in Attachment 9.A. As described above, the consummation of the AGTP sale and lease will help Beacon Wind further New York State's goal of installing 9,000 MW of offshore wind by 2035 and encouraging the repurposing of downstate fossil fuel generation infrastructure to connect offshore wind facilities to New York City's electric grid. [redacted] The development of this site to support BW2 will be reviewed and approved as part of the BOEM federal procedures as well as the New York State Article VII proceedings. In addition, Beacon Wind will need to obtain a SPDES permit for the development of the site from the New York DEC. The following sections provide a narrative overview of the federal, state, and local approvals that will be required for the Project to initiate construction. The SAP, provided in Attachment 10.B, was submitted in Q4 2020 and approved in Q3 2021. [redacted]

Beacon Wind also has been actively engaged with relevant stakeholders, including state and federal agencies about the Project and required permits and approvals. These include: the 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 ("NYSOPRHP"), New York State Department of Public Services ("NYDPS"), New York State Office of General Services ("NYSOGS") and New York State Energy Research and Development Authority ("NYSERDA"), including ongoing participation in New York State's Environmental Work Group ("E-TWG") and Fisheries Technical Working Group ("F-TWG"). In addition, Beacon Wind has engaged with the NY Harbor Operations Steering Committee, the Connecticut Department of Energy and Environment Protection, the Long Island Sound Study group, and the Maritime Technical Working Group ("M-TWG"). Additional details describing when and how state agencies are and will be involved are provided below, summarized in the permitting matrix provided as Attachment 10.A.

10.1.1. Federal Permits

U.S. Dept. of Interior, Bureau of Ocean Energy Mgmt.

The federal permitting process will be largely coordinated by BOEM and will include a review of environmental impacts under the National Environmental Policy Act of 1969 ("NEPA").[18] Under NEPA, federal agencies evaluate the potential impacts of any proposed major federal action with the potential to significantly affect the quality of the human environment. Through this process, federal agencies will also consider alternatives to the proposed action. BOEM serves as the lead federal agency for NEPA review and compliance with respect to the Project.

BOEM's jurisdictional obligations are defined under the Outer Continental Shelf Lands Act ("OCSLA") as implemented through regulations governing Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf (30 C.F.R. pt. 585). Under OCSLA, as amended by the Energy Policy Act of 2005, the Secretary of the Interior is authorized to issue leases for wind and other alternative energy development on the outer continental shelf ("OCS"). The OCS is defined as all submerged lands and seabeds within U.S. navigable waters, seaward and outside of the state jurisdiction or 3 nm.[19] Under delegated authority from the Department of the Interior, BOEM issued Lease OCS-A-0520 to Equinor Wind, which, in turn, was assigned to Beacon Wind. This lease is the primary mechanism by which BOEM regulates the use of the submerged lands for the Project per 30 C.F.R. pt. 585.

Detailed information about proposed activities and schedule requirements for the BOEM process are defined in the Lease and in applicable regulatory guidelines. A summary of these requirements and timelines is provided in Figure 34.

[18] 42 U.S.C. § 4321 *et seq*.
[19] *See* 43 U.S.C. § 1301.

Figure 34: BOEM Requirements and Lease Stipulations

Filing/Milestone	Description	Date
SAP Survey Plan	A description of methods and timing of surveys necessary to meet the information requirements of 30 C.F.R. § 585.610-611, including shallow hazards, geological, biological, geotechnical, and archaeological surveys. Plan submitted to BOEM for review and comment.	At least 30 calendar days prior to the date of the pre-survey meeting At least 90 days prior to start of marine surveys
Pre-Survey Meeting for the SAP surveys	Hold a pre-survey meeting with BOEM at which a qualified marine archaeologist must be present to discuss the SAP Survey Plan.	At least 60 days prior to start of SAP surveys
SAP	Plan due at the end of the Preliminary Term (*i.e.*, 12 months after the Effective Date) describing the activities to collect wind resource and metocean measurements using buoys or fixed-platform meteorological towers.	Prior to the end of the Preliminary Term
Semi-Annual Progress Report	A semi-annual progress report throughout the duration of the site assessment term providing a brief narrative of the overall progress since the last progress report.	Every 6 months after SAP approval
Construction and Operation Survey Plan	A plan describing the methods and timing of surveys necessary to meet the information requirements of a COP (§ 585.626 and 627). These surveys include shallow hazards, geological, biological, geotechnical, and archaeological.	At least 30 calendar days prior to pre-survey meeting At least 90 days prior to start of marine surveys

Filing/Milestone	Description	Date
Pre-Survey Meeting for the COP surveys	Hold a Pre-Survey Meeting with BOEM at which a Qualified Marine Archaeologist must be present, to discuss the COP Survey Plan.	At least 60 days prior to start of COP surveys
Construction and Operation Plan ("COP")	A plan describing the activities for constructing and operating an offshore wind project that includes the requirements of § 585.601, 626, and 627.	6 months prior to the end of the 5-year Site Assessment Term
Facility Design Report ("FDR")	A report that provides specific details of the design of any facilities, including cables and pipelines that are outlined in the approved SAP and/or COP, which demonstrates that the design conforms to the responsibilities listed in §585.105(a).	May be submitted with COP or following COP approval.
Fabrication and Installation Report ("FIR")	A report that describes how the facilities will be fabricated and installed in accordance with the design criteria identified in the FDR; the approved SAP and/or COP, and generally accepted industry standards and practices.	May be submitted with COP or following COP approval.

[redacted]

U.S. Coast Guard

The U.S. Coast Guard ("USCG") will issue a PATON approval for navigational lighting on structures above the waterline (*e.g.*, floating LiDAR buoys, WTGs, and offshore substation platforms) once required permits from the U.S. Army Corps of Engineers ("USACE") are obtained. Approximately two weeks prior to the initiation of construction activities, the USCG will publish a Local Notice to Mariners ("Notice"), which will remain in effect throughout the construction period. USCG will also be a cooperating agency under NEPA and will review the Navigation Safety Risk Assessment associated with the proposed facilities, where they will issue a Captain of the Port ("COTP") approving, approving with modifications or denying the NSRA provided in the COP.

BW is located in the following operational areas: District 1 – Sector Southeastern New England, Sector New York, and Sector Long Island Sound. [redacted]

U.S. Environmental Protection Agency

The United States Environmental Protection Agency ("EPA"), Region 1 and Region 2 will review BW for potential air emissions associated with construction and operation and maintenance vessels with respect to state non-attainment areas for criteria pollutants, respectively. The EPA will require an air quality permit for project-related activities on the OCS under the Clean Air Act ("CAA"), including emergency generators, should they be installed in the turbine towers, and marine vessels used for construction and/or operation while such vessels are physically attached to the seafloor.

As part of the OCS air permit process, a Corresponding Onshore Area ("COA") will be identified by the EPA in order to determine what federal and state air quality regulations may apply to the project (40 C.F.R. Part 55). In most cases, the COA will be the nearest point of land to a proposed project.

For BW, Massachusetts is geographically closest to the lease area and will likely be designated the COA by default.

To protect human health, the EPA establishes National Ambient Air Quality Standards ("NAAQS") pursuant to the CAA that apply to outdoor air throughout the country. For each NAAQS pollutant and averaging period, the EPA may designate a specified geographic area as being in attainment of the standard, as being in nonattainment of the standard, or as being a maintenance area (*i.e.*, an area that was previously in nonattainment but has since been redesignated as attaining the standard due to ongoing improvements in local air quality). Because the COA for the lease area will be a nonattainment or maintenance area for several pollutants, a General Conformity analysis pursuant to 40 C.F.R. pt. 93 may be required for air emissions occurring within 3 nm from shore (and potentially as far as 25 nm from the state seaward boundary), both for construction of the project and for any operational air emissions that will not be included in the OCS air permit.

If calendar year emissions of any pollutant exceed the applicable General Conformity threshold, then a formal determination of General Conformity may be required.

The OCS air permit and any General Conformity determination will cover offshore construction and operation, as well as onshore and offshore construction, but will not cover onshore operation (*i.e.*, stationary sources). For example, if the onshore substation is built with an emergency generator engine for operations, that engine could require state-only minor source air permitting in New York. As Beacon Wind refines the design of the Project, Beacon Wind will engage with NYSDEC to determine applicable requirements.

Under Section 402 of the CWA, the EPA will issue a National Pollutant Discharge Elimination System ("NPDES") Vessel General Permit for the discharge of any pollutant into navigable waters outside of the New York State jurisdictional boundary. EPA has delegated authority to NYSDEC for any State Pollutant Discharge Elimination System ("SPDES") permits that may be required within state jurisdiction.

U.S. Army Corps of Engineers

Beacon Wind has been in the process of conducting site investigations in federal waters (*e.g.*, geotechnical, geophysical borings) to support the design of the export cable and the wind farm (from 2020). These BW activities meet the requirements of a Nationwide Permit #6 for Survey Activities (New York District).[20] Activities associated with facilities under the SAP qualify for a Nationwide Permit #5. The BW survey activities meet the requirements of the New England District – Massachusetts General Permit #19. The buoy deployment activities described in the SAP were completed under USACE Nationwide Permit #5 and Equinor provided self-certification to the USACE New England District stating their intent to use NWP #5 for the activities and demonstrating project compliance with the NWP conditions.

Beacon Wind anticipates that an Individual Permit from the USACE will be required for dredging and installation activities in waters of the U.S for Beacon Wind. For dredging and excavation, Section 404 of the Clean Water Act ("CWA") (33 U.S.C. § 1344) prohibits the discharge of dredged or fill material into navigable waters of the United States without a permit from the USACE. Navigable waters are "subject to the ebb and flow of the tide and/or presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33 C.F.R. § 329.4). Section 401 of the CWA requires applicants to obtain a certification or waiver from the NYSDEC for any activity that may result in a discharge of a pollutant into waters of the United States, including any dredged or fill materials. Section 10 of the Rivers and Harbors Act of

[20] Any activities located in state waters will require the state water quality certificate and coastal zone consistency determination. This is predicated on proposed activities meeting NY-regional specific conditions. Beacon Wind is consulting with both NYSDEC and NYSOGS for work proposed within the 3 nm jurisdictional boundary and preparing the required documentation in support of this work.

1899 (33 U.S.C. § 401 *et seq.*) requires a permit from the USACE for construction of any structure, such as wind turbine generators and/or a submarine transmission cable, in or over any navigable waters of the United States. USACE also regulates dredging activities pursuant to Section 10 of the Rivers and Harbors Act. USACE is expected to be a cooperating agency under NEPA to satisfy the NEPA requirements for the Individual Permit. The CWA application package will include ENG Form 4345, project drawings, and other supporting information. In the event that activities propose impacts to wetlands subject to USACE jurisdiction (*e.g.*, tidal wetlands), Beacon Wind will be required to complete field delineations to define the wetland boundary and corresponding buffer. The delineation is subject to review and approval by USACE through the permitting process. Depending on the nature and extent of dredging activities, USACE may require sampling and analysis of proposed dredge material to characterize this material within the permit application. Any characterization of proposed dredge material will also be coordinated with NYSDEC within state jurisdictional waters. Depending on the nature of these impacts, mitigation may be required.

USACE also regulates occupancy for any project that would be located within a federally sponsored project (*e.g.*, navigational channels, anchorages, beach replenishment areas), regardless of whether the sponsorship is partial or whole under Section 408 of the CWA. Beacon Wind will review the project details with USACE to determine the applicability of these requirements to the Project.

BW is located within the jurisdictional areas of the New York District and the New England District. Inter-jurisdictional projects are common, and a lead-district will be established as the primary point of contact for Beacon Wind, BOEM, and the NEPA process.

Other Federal Agencies

Because BW is outside of the federal territorial seas (defined as 3 nm to 12 nm), the Federal Aviation Administration (“FAA”) review of structures over 200 feet will not apply to the project. However, BOEM has incorporated FAA guidance on marking and lighting in its own guidance.

[redacted]

[redacted]

Environmental resource protection agencies, including the National Oceanic and Atmospheric Administration, National Marine Fisheries Service ("NOAA NMFS") and the U.S. Fish and Wildlife Service ("USFWS"), Northeast Region (Region 5), will be responsible for reviewing project impacts to protected resources and evaluating the need for mitigation through prescribed best management practices. These agencies will have the opportunity to review environmental documents and comment through inter-agency consultations required pursuant to NEPA. NOAA NMFS and USFWS will review impacts to marine, coastal, and terrestrial threatened and endangered species protected by the federal Endangered Species Act ("ESA"). Impacts to non-listed species and habitats will also be evaluated under several other wildlife protection laws, including the Migratory Bird Treaty Act of 1918 ("MBTA"), the Bald and Golden Eagle Protection Act ("BGEPA"), the Marine Mammal Protection Act of 1972 ("MMPA"), and the Magnuson-Stevens Fishery Conservation and Management Act ("MSFCMA"). Additionally, in accordance with 50 C.F.R § 600.920(e)(1), BOEM and NOAA NMFS will assess impacts to Essential Fish Habitat.

Under the MMPA and ESA, NOAA NMFS and USFWS are required to review any activity that may result in the unintentional "taking" of marine mammals and of sea turtles and fish incidental to activities including construction projects. Incidental take is authorized if it is determined that the taking would: (a) be a small number; (b) have no more than a negligible impact; and (c) not have an unmitigable adverse impact. Incidental Take Authorizations can be provided in the form of an Incidental Harassment Authorization or a Letter of Authorization, depending on the nature and duration of the activity, which will be discussed in close consultation with NOAA NMFS.

Implementation of the following federal statutes have been delegated:

- The Coastal Zone Management Act ("CZMA") requires that the responsible state agency provide a determination that construction and operation of the proposed project is consistent with state's coastal protection policies within the applicable jurisdiction. NYSDOS, the agency responsible for administering the New York Coastal Management Program and will issue its determination in connection with the COP. BW is anticipated to have CZMA review from the States of Massachusetts, Rhode Island, Connecticut, and New York.

- The CWA Section 401 permit ("State Water Quality Certificate") must be issued as a pre-requisite to the USACE permit and will be issued by New York State for BW as part of the Article VII certificate.
- NYSDEC has the delegated authority to implement Section 402 of the CWA and thus enforces the NYSDEC under its NYSDEC program and will issue permits required for the installation of the transmission cable to shore and substation upgrades.

Additionally, the National Historic Preservation Act of 1966 ("NHPA") requires consultation with the State Historic Preservation Office and with the Tribal Historic Preservation Office of any Native American Tribes which may be affected by the Project. Section 106 of the NHPA requires federal agencies to take into account the effects of a proposed action on properties eligible for inclusion in the National Register of Historic Places ("NRHP") and, if applicable, develop plans to avoid, minimize, or mitigate adverse effects to the historic properties. "Properties" are defined as "cultural resources," which include prehistoric and historic sites, buildings, and structures that are listed on or eligible for listing in the NRHP.

10.1.2. State Permits

NY Public Service Commission and Department of Public Service Commission

The primary state environmental review and approval for BW is defined by Article VII of the Public Service Law. At the conclusion of the Article VII process, Beacon Wind will be issued a Certificate of Environmental Compatibility and Public Need ("ECPN"), which is required for the siting of major utility infrastructure[21] in the state of New York. The Article VII application will address the proposed transmission system connecting the offshore wind farm to the interconnecting substation including any associated infrastructure upgrades (*e.g.*, switching station) that may be required for deliverability at the interconnection point. Applications for major electric transmission lines, like the one to be proposed by Beacon Wind, are governed by 16 NYCRR Part 86 and 88.

The Public Service Commission ("PSC") regulates investor owned electric, natural gas, steam, telecommunications, and water utilities in New York State and issues the ECPN. The PSC decides any application filed under Article VII, the certification review process for major electric and gas transmission facilities. The Department of Public Service ("DPS"), who serve as staff to the PSC, is the State agency that carries out the PSC's legal mandates. Namely, one of DPS's responsibilities is to participate in all Article VII proceedings to represent the public interest.

The Article VII Application will be prepared based on the results of various technical studies. The application will include a description of the preferred alternative, presentation of the technical

[21] Major electric transmission facilities are lines with a design capacity of 100 kV or more extending for at least 10 miles, or 125 kV and over, extending a distance of one mile or more.

studies and potential impacts, a discussion of project need and an evaluation of alternatives. The application will also identify pertinent local regulations in the towns and counties traversed by the transmission line and will indicate those regulations that are considered unduly restrictive. The application will also include supporting direct testimony from the technical experts who will serve as potential witnesses during evidentiary hearings. Consultation with the PSC staff prior to completion of the Article VII Application will be used to provide guidance regarding the scope of the technical studies to be included in the Article VII Application.

Statutory parties to the Article VII process must be provided copies of the Article VII Application. These parties include: each municipality in which any portion of the facility is to be located, various state agencies, and each member of the state legislature through whose district the facility is to be located. Once the Article VII Application is filed with the PSC, staff will conduct a completeness determination review of the application and initiate the review process.

[redacted]

New York State Department of Environmental Conservation

The New York State Department of Environmental Conservation ("NYSDEC") is primarily a cooperating agency in the Article VII review process. Subject matter experts in wetlands, wildlife, contaminated soils, fisheries etc. will participate in the discovery process during the Article VII review; however, the ultimate approval of BW rests with the PSC for wetlands permitting and other environmental approvals. NYSDEC will approve any mitigation necessary for the Project, in coordination with the PSC. Beacon Wind will work with NYSDEC through the Article VII process.

NYSDEC has delegated authority to implement Section 401 of the CWA for the State Water Quality Certificate. This too will be authorized under the PSC Article VII process for work within New York State waters. NYSDEC also has the delegated authority to implement Section 402 of the CWA and thus enforces the SPDES and will issue permit(s) for the installation of the transmission cable to shore (*e.g.*, construction stormwater permits and/or discharge permits for construction dewatering).

New York State Department of State

The New York State Department of State ("NYSDOS") is responsible for administering the New York State Coastal Management Program ("NYS CMP"). Consistency review is the tool which enables the NYSDOS to manage coastal uses and resources while facilitating cooperation and coordination with involved state, federal and local agencies. The "consistency" of a proposed

activity with the NYS CMP is determined through a set of coastal policies and procedures designed to enable appropriate economic development while advancing the protection and preservation of ecological, cultural, historic, recreational, and esthetic values. NYSDOS will also likely act in an advisory role in the Article VII process, providing input to Beacon Wind on certificate conditions relating to NY State waters.

Survey activities supporting the design of BW were federally authorized by the NWP #6. These permits have not received a blanket consistency determination from NYSDOS. Beacon Wind has, and will continue to seek, consistency determinations for geotechnical borings within New York State waters prior to implementation.

New York State Office of General Services

NYSOGS holds title to the seabed within 3 nm of the coastline "in trust" for the people of the State of New York. Structures located in, on, or above submerged state-owned lands are regulated under the Public Lands Law and may require authorization from the state. Beacon Wind will be required to obtain a submerged lands lease from the NYSOGS for the export cables to shore.

New York State Energy Research and Development Authority

The New York State Energy Research and Development Authority ("NYSERDA") is the lead agency coordinating offshore wind opportunities in New York State. In support of the Governor's proposal to meet 50 percent of New York's electricity needs with renewable sources by 2030, NYSERDA continues to work closely with coastal communities and the fishing and maritime industries to identify offshore wind sites to be included in New York State's Offshore Wind Master Plan ("Master Plan"). Although it has no permitting authority, it may impose certain conditions via issuance of the bid award in order to support meeting objectives described in the Master Plan. In addition, the assessments and surveys conducted by NYSERDA to inform the Offshore Wind Master Plan have been and will continue to be of significant value towards informing Beacon Wind's development plans, permitting, and stakeholder outreach.

New York State Department of Transportation

NYSDOT has an agreement with the Federal Highway Administration ("FHWA") regarding how utilities are accommodated on controlled access highways (Accommodation Plan for Longitudinal Use of Freeway Right-of-Way By Utilities); however, only communication utilities are permitted. Therefore, any request for a non-highway use of a controlled access highway (i.e., for construction and operation of BW2) is considered an exception to the Accommodation Plan and would require approval by the Federal Highway Administration. Unlike the other approvals described in this plan, the FHWA approval is issued to NYSDOT and not Beacon Wind. At this time, BW2 is not located within State highways, parkways, or expressways rights of way.

New York State Office of Parks and Historic Preservation

New York State Office of Parks and Historic Preservation ("NYSOPRHP") provides advice and guidance to municipalities, the Governor, and the Legislature on the municipal alienation process. Parkland alienation applies to every municipal park in the State of New York. For those municipal parks that have also received Federal funds, such as through the Land and Water Conservation Fund, both alienation and conversion procedures apply.

With regard to cable routing, if a portion of a beach, open space or bike path, that is designated municipal parkland, is needed for a cable easement, even if temporary, such a conveyance would require the authorization of a parkland alienation bill from the New York State Legislature and approval by the Governor. At this time, the BW2 cable routing is not anticipated to cross municipal parkland.

New York State Coordination

The environmental assessment activity for BW2, through the Article VII process, will rely on input from NYSDEC, OPRHP, and NYSDOS to inform the review. These agencies will similarly play a significant role in the NEPA process and will be asked to coordinate with BOEM.

Connecticut Department of Energy and Environmental Protection

The Connecticut Department of Energy and Environmental Protection ("DEEP") is responsible for administering the Long Island Sound Blue Plan, which establishes enforceable policies that apply to federal consistency reviews of proposed federal actions (*e.g.*, COP Approval) in Long Island Sound. The review by DEEP will be conducted in conjunction with the NYSDOS review of the submarine export cable and how the proposed installation and operation related activities will comply with state coastal management policies. Approximately 100 nautical miles of the export cable route extends down Long Island Sound and is therefore subject to joint CZMA oversight from Connecticut and New York.

Rhode Island Coastal Resources Management Council

The Rhode Island Coastal Resources Management Council ("CRMC") is responsible for administering the Rhode Island Coastal Resources Management Program, which establishes enforceable policies that apply to federal consistency reviews of proposed federal actions (e.g. COP Approval) that correspond to the geographic area covered by the Ocean Special Area Management Plan ("Ocean SAMP"), also known as the Geographic Location Description ("GLD"). The Ocean SAMP GLD stretches beyond the 3-nautical mile Rhode Island state waters boundary and encompasses portions of Block Island Sound, Rhode Island Sound, and the Atlantic Ocean. The Ocean SAMP GLD was expanded in 2018 to include BOEM leases OCS-A 0500 and 0501, as such – CRMC does not currently have jurisdiction over activities within the Beacon Wind lease area. CRMC has jurisdiction over approximately 20 nautical miles of the export cable route.

Massachusetts Office of Coastal Zone Management

The Massachusetts Office of Coastal Zone Management ("CZM") is responsible for administering the Massachusetts Office of Coastal Zone Management Policy, which establishes enforceable policies that apply to federal consistency reviews of proposed federal actions (e.g. COP Approval) within the Massachusetts Coastal Zone. As discussed in Section 6.2.1 Beacon Wind proposes to utilize a satellite O&M base near BW, possibly in Massachusetts. The MA CZM review would cover use of and transportation to/from this facility. Additionally, Massachusetts constitutes the COA for the OCS Air Permit (see Section 10.1.1) and therefore Beacon Wind intends to work collaboratively with the Commonwealth of Massachusetts on permitting activities for Beacon Wind.

10.1.3. Local Permits

Since the Article VII process supersedes local permitting, the PSC has the authority to grant waivers from local ordinance requirements that are determined to be unreasonable or prohibitive to construction and operation of a transmission project determined to be in the public interest of New York residents. The threshold to obtain a waiver for local ordinances is often high. Accordingly, this pathway will only be taken if there are no other commercial or technically viable alternatives. In the event that zoning variances may be required from local planning boards, the PSC will expect a good faith effort to have been made by Beacon Wind to reach an agreement between the municipalities, prior to seeking a waiver. Compliance with applicable ordinances and any requests for waivers (if needed) will be prepared as part of the initial Article VII Application.

10.1.4. Federal and State Agency Coordination

As discussed above, as the lead federal agency under NEPA, BOEM is responsible for reviewing and approving the Survey Plans (i.e., SAP, COP, FIR/FDR), SAP, and COP, as well as the FDR/FIR. BOEM will prepare an EIS upon the completeness determination of the COP. After public comment and formal review of the EIS, BOEM will issue a ROD for the buildout of the lease area, including BW2. The ROD will explain BOEM's decision, describe the alternatives BOEM considered, and discuss mitigation and monitoring to be undertaken by the project proponent, if necessary.

During its technical review of the abovementioned documents, BOEM will engage in formal consultation with the cooperating federal agencies (*e.g.*, USACE, USFWS, NOAA NMFS, EPA, etc.) under the CZMA, ESA, MBTA, BGEPA, MMPA, MSFCMA, CWA, and CAA. Additionally, state agencies, particularly those delegated authority as discussed above, will be engaged in review of the COP and other permit applications, in coordination with the federal NEPA review.

Similar to the federal review process, several consultations will be required prior to approval of permits, including the Division of Parks and Forestry, Natural Heritage Program for impacts to

threatened and endangered species; and the Historic Preservation Office for consultation under the New York Register of Historic Places Act and Section 106 of the NHPA.

Beacon Wind has been actively engaged with these agencies and other stakeholders to share results and discuss potential impacts from BW2.

10.2. Pending Permits, Licenses, and Environmental Documentation Timing

2. Provide the anticipated timeline for seeking and receiving the required permits, licenses, and environmental assessments and/or environmental impact statements. Include a Project approval assessment which describes, in narrative form, each segment of the process, the required permit or approval, the status of the request or application and the basis for projection of success by the milestone date. All requirements should be included on the Project schedule in as described in Section 6.4.12.

This section describes the sequence for seeking and receiving the required permits, licenses, and environmental assessments and/or environmental impact statements. At the time that this proposal was prepared, Beacon Wind has commenced survey activities associated with the SAP [redacted] As BW proceeds, a variety of tasks will be moving in parallel paths. From study planning to survey execution and stakeholder outreach, the number of ongoing activities that must be tracked diligently in order to maintain consistency and quality will demand careful attention and thorough record keeping. Given the complexity of a proposed offshore wind farm and the number of technical details that must be managed, Beacon Wind has established a well-developed process, based on previous project experience from EW, for keeping track of commitments and environmental requirements either offered up by Beacon Wind or required through permitting and consultation. Beacon Wind will maintain a Commitments Register that will include information about the origin of the commitments and/or environmental requirements (when they were made and who they were made to), what aspect of the facility the requirements apply to (*e.g.*, installation of the submarine cable, pre-construction notification, etc.), and estimated start/end of that commitment to ensure a successful project.

Beacon Wind believes in early and frequent engagement with the regulatory agencies. Public involvement in both the federal and state regulatory process is important and has and will continue to be managed proactively. Stakeholders include, but are not limited to: Congressional delegations; federal, state, and local regulatory agencies; citizen groups; environmental/nongovernmental groups; coastal states; Native American tribes; fishermen's organizations; recreation and tourism interests; marine trades; commercial interests; and the general public or other groups with broad interest in BW2. Details on outreach to these entities and others are further described in other sections of this RFP (*e.g.*, Stakeholder Engagement Plan (Section 16); Environmental Mitigation Plan (Section 15), and Fisheries Mitigation Plan (Section 14)).

Below, Beacon Wind provides a high-level overview and sequencing of the various permitting processes for BW2. The permitting plan execution timeline for BW2 is discussed further in Section 12.1 and in Attachment 12.B.

10.2.1. Phase I: Continued Survey Planning

[redacted]

In accordance with BOEM lease conditions, Beacon Wind must submit survey plans to BOEM for review in advance of conducting site characterization activities. To date, Beacon Wind has submitted three survey plans to BOEM for BW.

Bottom disturbing activities described in BOEM survey plans are also permitted by the USACE. Beacon Wind survey activities within New York waters have been authorized under the New York District Nationwide Permit #6 for Survey Activities.[22] Because the New England District does not endorse the nationwide permits, Beacon Wind bottom disturbing survey activities are authorized under Massachusetts General Permit # 19 for sampling activity in the lease area and the portions of the expert cable routes outside of New York jurisdictional waters.

Under the MMPA and ESA, NOAA NMFS and USFWS are required to review any activity that may result in the unintentional "taking" of marine mammals and of sea turtles and fish incidental to activities including construction projects. Incidental take is authorized if it is determined that the taking would: (a) be a small number; (b) have no more than a negligible impact; and (c) not have an unmitigable adverse impact. Incidental Take Authorizations can be provided in the form of an Incidental Harassment Authorization or a Letter of Authorization, depending on the nature and duration of the activity, which will be discussed in close consultation with NOAA NMFS. [redacted]

[22] Any activities located in state waters will require the state water quality certificate and coastal zone consistency determination. This is predicated on proposed activities meeting NY-regional specific conditions. Equinor Wind is consulting with both NYSDEC and NYSOGS for work proposed within the 3 nm jurisdictional boundary and preparing the required documentation in support of this work.

10.2.2. Phase II: COP, Article VII, Coastal Consistency and NYSOGS Submittals

The following section describes the process by which Beacon Wind will secure permits, licenses, and environmental impact statements for BW2. Additional details for individual permits are provided in Attachment 10.A. The schedule and timeline for approvals are provided in Section 10.1.1.

In general, the COP (federal) and Article VII application (New York) are the two primary environmental and siting approvals that have the longest durations and require the most detailed impact assessments. Public involvement is a critical aspect of both review processes and therefore it is preferable to file both applications close together. Several environmental assessments are needed to support the characterization of baseline conditions and potential impacts, which are further detailed in Section 15. These assessments are either complete, in progress or will be initiated so that information can be incorporated into the COP and the Article VII Application, including but not limited to:

- Offshore site characterization surveys, including benthic, geophysical, metocean, geotechnical, and marine archeological assessments;
- Offshore avian surveys;
- Marine mammals and sea turtles monitoring;
- Bat Monitoring;
- Essential Fish Habitat Assessment;
- Wetlands delineation;
- Terrestrial cultural surveys;
- Visual surveys;
- Historic properties surveys;
- Navigational risk safety assessment;
- In-air noise;
- Cable burial risk assessment;
- Aviation risk assessment;
- Underwater noise acoustic modeling;
- Air quality modeling;
- Sediment transport analysis; and
- Electromagnetic Field (“EMF”) modeling.

Consultations with various agencies have been and will continue to be completed to support the assessments. As information becomes available, Beacon Wind has been proactive with sharing results with the appropriate authorities.

An additional requirement for the Article VII application is the System Reliability Impact Study ("SRIS"), prepared by NYISO as a result of the interconnection requests filed by Beacon Wind. It is anticipated that this will be received in advance of application submittal to NYSDPS.

[redacted]

A copy of all federal application materials will also be submitted to NYSDOS at the same time they are sent to the federal permitting agency to support the Coastal Consistency Determination. Beacon Wind will certify to the federal agency and the NYSDOS that BW2 complies and is consistent with the New York State Coastal Management Program. No federal agency can issue a permit for a project affecting New York's coastal area until the NYSDOS concurs with the consistency certification. By federal regulation, NYSDOS has six months to complete its review of a consistency certification and make a decision. Typically, most consistency reviews can be completed within one or two months. To date, Beacon Wind has consulted with, and will continue to consult with the above-mentioned agencies on development of BW2, and therefore those agencies have had and will have opportunities to input into and comment on the process prior to BOEM's issuance of the NOI.

Beacon Wind submitted a Fixing America's Surface Transportation Act (FAST-41) Initiation Notice, in accordance with 42 U.S.C. Section 4370(m) on June 20, 2022 and then resubmitted on September 14, 2022 to the FAST-41 Council. BW is listed on the FAST-41 Permitting Dashboard as a planned project, where it will remain in this status until BOEM initiates the formal interagency consultation process with other cooperating federal agencies.

10.2.3. Phase III: USACE, EPA, NOAA NMFS Application Submittals

The lead agencies responsible for the COP will rely on other federal agencies to comment and coordinate the environmental reviews of the Project. Therefore, it is necessary to prepare and submit the USACE, EPA OCS Air Permit and NOAA NMFS application packages in an appropriate timeframe as it relates to the COP review process. Information gathered during the studies outlined and completed for Phases I and II of this Permit Acquisition Plan will support these applications, including additional site-specific data through field surveys. Detailed design drawings will also be prepared as part of the application packages.

10.2.4. Phase IV: Supplemental Requirements for BOEM and PSC

Upon COP approval, Beacon Wind will submit the FDR and the FIR for BOEM approval prior to construction. Per §585.705, Beacon Wind has contracted DNV as the CVA to review and certify the FDR and FIR to ensure that the facilities are designed, fabricated, and installed in conformance with accepted engineering practices.

Following issuance of the Article VII Certificate, Beacon Wind will prepare the various additional documents to verify its compliance with the certificate conditions, including the EM&CP. This document must be formally filed with and approved by the PSC before construction can proceed. The EM&CP will detail the precise location of the proposed facilities and the special precautions that will be taken during construction to ensure environmental compatibility. It is important to note that the Article VII authorization does not include property rights. As such, the EM&CP cannot be issued until all property right are obtained, including the New York State Department of Transportation Accommodation Permit.

Both of these documents will rely on the additional design details that will have been developed as the project matures.

10.2.5. Phase V: Remaining Permit Applications

During the review of the FDR/FIR and EM&CP, Beacon Wind will submit the remaining permit applications required for project construction:

- The PATON to USCG for wind farm development;
- The Vessel Discharge Permit to EPA for wind farm development and operations; and
- The Notice of Intent and Stormwater Pollution Prevention Plan (“SWPPP”) and SPDES permit applications to NYSDEC for export cable landing and routing and substation construction.

10.3. Construction Permit Close-out and Operations Turnover

When the construction phase of BW2 comes to a close, it may be necessary to complete certain obligations or commitments associated with permits obtained for construction. For example, Beacon Wind may be required to restore vegetation temporarily removed/disturbed as part of onshore export cable installation, with documented successful vegetation establishment after a certain timeframe of planting. Beacon Wind will continue to maintain the Commitments Register referenced in Section 10.2, such that these requirements are closed out appropriately.

Similarly, in preparation for operations, Beacon Wind will be turning the Project over to the dedicated Operations Team. Leading up to the turnover, Beacon Wind will prepare an “Operations Compliance Matrix,” which will identify all operations permits, required monitoring/recordkeeping, regulatory submittals (if applicable), and timeframes. This information is necessary such that the dedicated Environmental Compliance Manager for

operations becomes familiar with and is able to establish a compliance program for implementation throughout the operations phase. Examples of items that would be part of this matrix, include but are not limited to:

- EPA Vessel Discharge Permit monitoring and annual reports;
- OSRP spill response training; and
- OSRP biennial review and submittal.

As part of the development of Standard Operating Procedures (SOPs) for the wind farm, Beacon Wind will consider relevant regulatory requirements associated with environmental compliance that need to be incorporated. For example, under the OSRP, spill response equipment will need to be inspected and maintained monthly and records of such inspections must be maintained for two years. Operations Team members will be trained on these at an established, applicable interval (e.g., annual or other) to ensure continued environmental compliance.

10.4. Decommissioning

In a similar manner to the operations turnover, certain things will be required to maintain compliance during decommissioning activities. These are expected to be initially identified during the current permitting phase of BW2 and logged in the Commitments Register. Throughout operations, the Commitments Register will be reviewed periodically to ensure any nuances associated with decommissioning requirements are captured, such that upon initiation of decommissioning activities, the appropriate oversight resources can be dedicated to see this activity to completion.

11. ENGINEERING AND TECHNOLOGY

Provide information about the specific technology or equipment including the track record of the technology and equipment and other information as necessary to demonstrate that the technology is viable. Provide a preliminary engineering plan which includes at least the following enumerated information. If specific information is not known, identify manufacturers, vendors, and equipment that will be considered.

a. Type of foundation, Offer Capacity, and generator lead line transmission technology

b. Primary Components to be used

c. Manufacturer of each of the Primary Components as well as the location where each Primary Component will be manufactured

d. Status of acquisition of the Primary Components

e. Status of any contracts for the Primary Components that Proposer has secured or Proposer's plan for securing equipment and the status of any pertinent commercial arrangements

f. Equipment vendors selected/considered

g. Track record of equipment operations

h. How climate-related physical risks across the different components and asset classes of the Project have been considered.

i. Design considerations (technology selection, layout) for climate adaptation and resiliency such as sea level rise and dynamic flooding events, potential impacts from increased frequency and severity of storms (e.g., superstorms, hurricanes), seismic activity, etc.) and features that will strengthen the Project's ability to handle shocks and stresses

j. Design considerations that help to support responsible disposal and or recycling of Primary Components after the end of their useful life and equipment plans that generally aim to consider the precepts of the circular economy.

k. In the event the Primary Components or Sub-component manufacturers have not yet been selected, identify in the equipment procurement strategy the factors under consideration for selecting the preferred equipment, including alignment with the considerations above, as well as the anticipated timing associated with the selection of the equipment manufacturer, including the timing for binding commercial agreement(s).

11.1. Overview of Major Project Components and Technologies

11.1.1. Wind Turbine Generators

The WTGs used in an offshore wind project will have a critical impact on project cost, performance, and reliability, including the project's ability to generate energy during low wind periods, the capacity factor of the project, and the frequency and cost of preventative and unplanned maintenance required. As a result of their large rotor diameters and higher hub

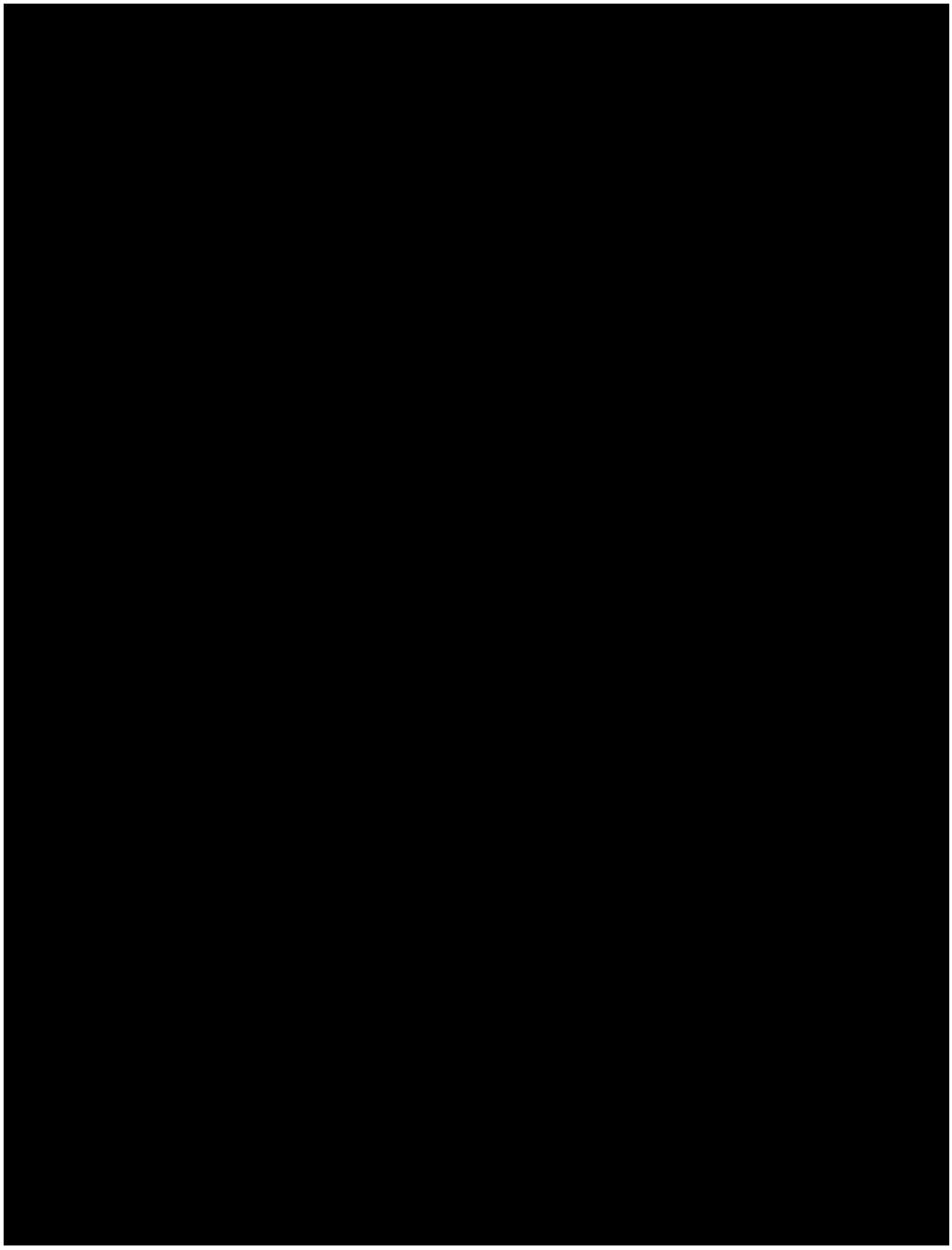
height, generally larger wind turbines are able to more effectively harvest wind resources, resulting in lower energy costs, higher capacity factors, and higher annual energy production.

[redacted]

11.1.2. WTG Foundations

[redacted]

[redacted]



[redacted]

[redacted]

[redacted]

[redacted]

11.1.3. Inter-Array Cables

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

11.1.4. Transmission Approach

[redacted]

[redacted]

[redacted]

11.1.5. Offshore Substation

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]
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Meshed Ready Offshore Substation

[redacted]

- [redacted]
- [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

11.1.6. Export Cables

As part of the BW1 development process, Beacon Wind commissioned a series of studies to evaluate potential interconnection points and cable routes. [redacted]

[redacted]

[redacted]

[redacted]

11.1.7. Onshore Substation

All equipment in the onshore substation facility is commonly used equipment for transmission systems and is currently available on the market. Figure 43 depicts the onshore substation constructed at Equinor's existing Dudgeon offshore wind facility.

[redacted]

[redacted]

[redacted]

11.2. Procurement Strategy

Since being granted rights to develop each lease area, Beacon Wind has been diligently evaluating potential design and supply options for BW2. Beacon Wind and its affiliates are committed to ensuring that the development of their projects foster the growth and development of a robust offshore wind supply chain within New York that makes New York a hub of the offshore wind industry and allows the state to efficiently and cost-effectively meet its CLCPA goals.

Beacon Wind has a well-defined procurement strategy that will ensure that Beacon Wind is able to procure necessary components and equipment on a timeline that allows it to meet its target commercial operation date, while ensuring that all project components meet Beacon Wind's rigorous quality standards. An overview of Beacon Wind's approach to equipment solicitation and supply chain management is provided below. In addition, a general overview of the timing of the procurement of project components is provided in Section 12.2.

The Project will define sourcing strategies based on the scope of work and technical specifications for the different work packages and information provided by main potential suppliers through Request for Information processes and studies.

As evidenced by the contractor letters of support provided as Attachment 11.B, Beacon Wind is actively discussing scope and opportunities with the supplier market, and there is great interest in all areas.

11.2.1. Current Progress

Beacon Wind and its affiliates have been working diligently on maturing the procurement strategy for the portfolio of projects being built off the coast of New York, including BW2. [redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]

11.2.2. Equipment Solicitation and Supply Chain Management

Equipment solicitation and supply chain management are integrated into the planning, execution, and operation of the Project. Procurement activities and the development of an overall procurement strategy started at an early stage of the Project. This strategy incorporates lessons from previous offshore wind projects, including EW, and is based on the Project's specific conditions and requirements, as well as market analysis and screening.

Beacon Wind's procurement process consists of the following main steps:

- Development of procurement strategy;
- Development of a bidders list;
- Contract drafting;
- Sourcing;
- Contract award; and
- Contract management.

11.2.3. Development of Procurement Strategy

The first step in the procurement process is to establish a defined procurement strategy in cooperation with the technical group within Beacon Wind that will be installing and managing

[redacted]

the procured product or equipment. This process also includes a risk assessment for the specific contract package to ensure that any potential issues are known and addressed early on.

[redacted]

11.2.4. Development of a Bidders List

Once a strategy is established, Beacon Wind and its affiliates develop a bidder list. This process begins with identifying qualified suppliers. Each supplier must meet minimum requirements with regards to safety, quality, human rights, and integrity, which is confirmed through a due diligence process.

In addition to these business requirements, suppliers must meet the project's technical requirements. Beacon Wind and its affiliates use a supplier qualification system, such as ISNetworld, to vet and compare potential suppliers. In many cases, more potential suppliers will pass the minimum requirements than those that are selected to be added to a bidders list. Therefore, Beacon Wind and its affiliates use a prequalification process to shortlist suppliers and ensure that only qualified and capable suppliers are invited to tender a contract. This prequalification process is specifically tailored for each procurement and typically involves follow-up questions to potential suppliers, site visits, and/or audits, depending on the needs of the project.

11.2.5. Contract Drafting

The sourcing process starts with defining the scope of work and delivery in detail. Once settled, the contract documents are drafted, including terms and conditions, specific compliance requirements, compensation format, proposed delivery milestones, payment schedules, technical requirements, and administrative requirements. This is completed by Beacon Wind or its Affiliates' procurement group in cooperation with other departments responsible for the project at issue. Beacon Wind or its Affiliates' procurement group will tailor each contract to reflect the size, scope, and complexity of a project.

[redacted]

11.2.6. Sourcing

Based on the results of the qualification process described above, Beacon Wind will invite qualified suppliers to bid to supply the equipment or perform the work at issue. In order to guide the bid process, Beacon Wind will develop detailed instructions that will define the information to be included in the bid, provide guidance regarding how to submit the bid, detail Beacon Wind's evaluation criteria, and include the draft contract developed by Beacon Wind or its Affiliates. After a predefined period, Beacon Wind receives the bids and starts the contract evaluation and negotiation phase.

Objective and non-discriminatory evaluation criteria are defined for the specific procurement and agreed to prior to the bid opening to ensure a fair and fact-based selection process. The evaluation is performed by a cross functional team and will cover the Health, Safety, and Environmental ("HSE"), technical, commercial, and schedule aspects of the bids. The evaluation process will continue until Beacon Wind has identified which supplier best suits its business needs and the project's specific requirements.

[redacted]

11.2.7. Contract Award

As soon as the contract has been signed by both parties, unsuccessful bidders are informed in writing. Debrief meetings are proposed to assist them in improving future bids.

Figure 44 below depicts the expected contract structure for the. Details concerning the contract award timeline are provided in Section 12.2. Beacon Wind reserves the right to combine or split contracts to improve project execution, mitigate risks and/or reduce costs.[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

11.2.8. Contract Management

After the contract has been signed, a kick-off meeting with the supplier is held to ensure that the contract requirements and Beacon Wind's expectations are well understood, and to agree on communication lines and routines during the contract period.

Beacon Wind will appoint a Company Representative ("CR") who will act as the contract owner and the single point of contact for the supplier. The CR has a multi-disciplinary team of professionals and experts to help manage the contract and follow up with the supplier. The main focus during the contract management phase is to ensure that the supplier delivers and acts according to the commitments made in the contract with respect to quality, schedule, health and safety, and cost. The supplier's performance will be monitored throughout the contract period based on Key Performance Indicators ("KPI") (*e.g.*, compliance and safety). Regular meetings with

the supplier (*e.g.*, monthly progress meetings and weekly/biweekly technical meetings) will take place during the contract period. For larger contracts, a steering or sponsor committee is often established.

11.3. Manufacturer Location

Figure 45 provides an overview of the potential locations for the manufacture of various project components for the Project. Given that Beacon Wind is still in discussions with potential suppliers, the final location of the manufacturer will be finalized based on the outcome of Beacon Wind's procurement process. As a result, the list below should not be considered final and is subject to change as Beacon Wind moves forward with development of the Project.

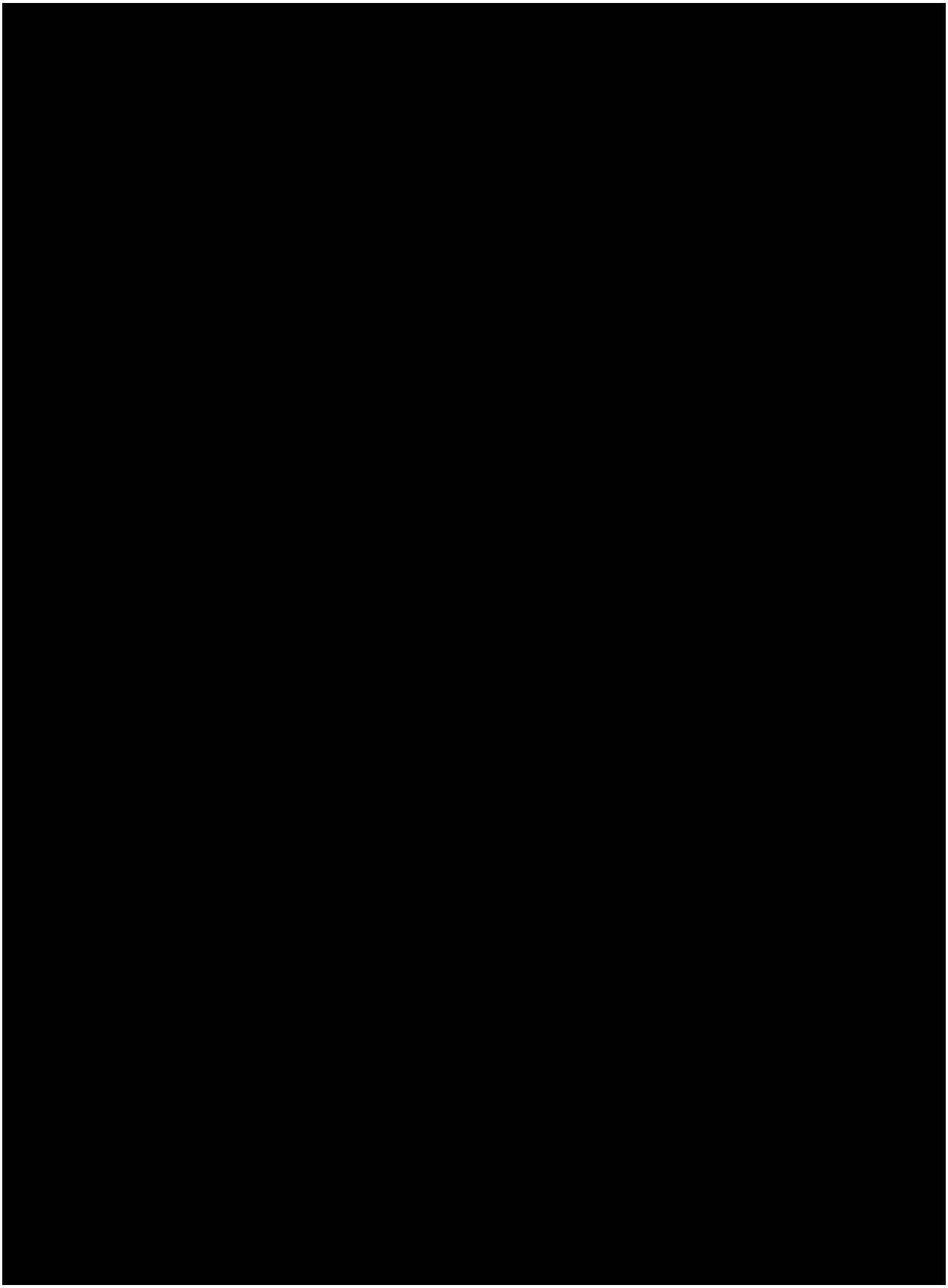
[redacted]

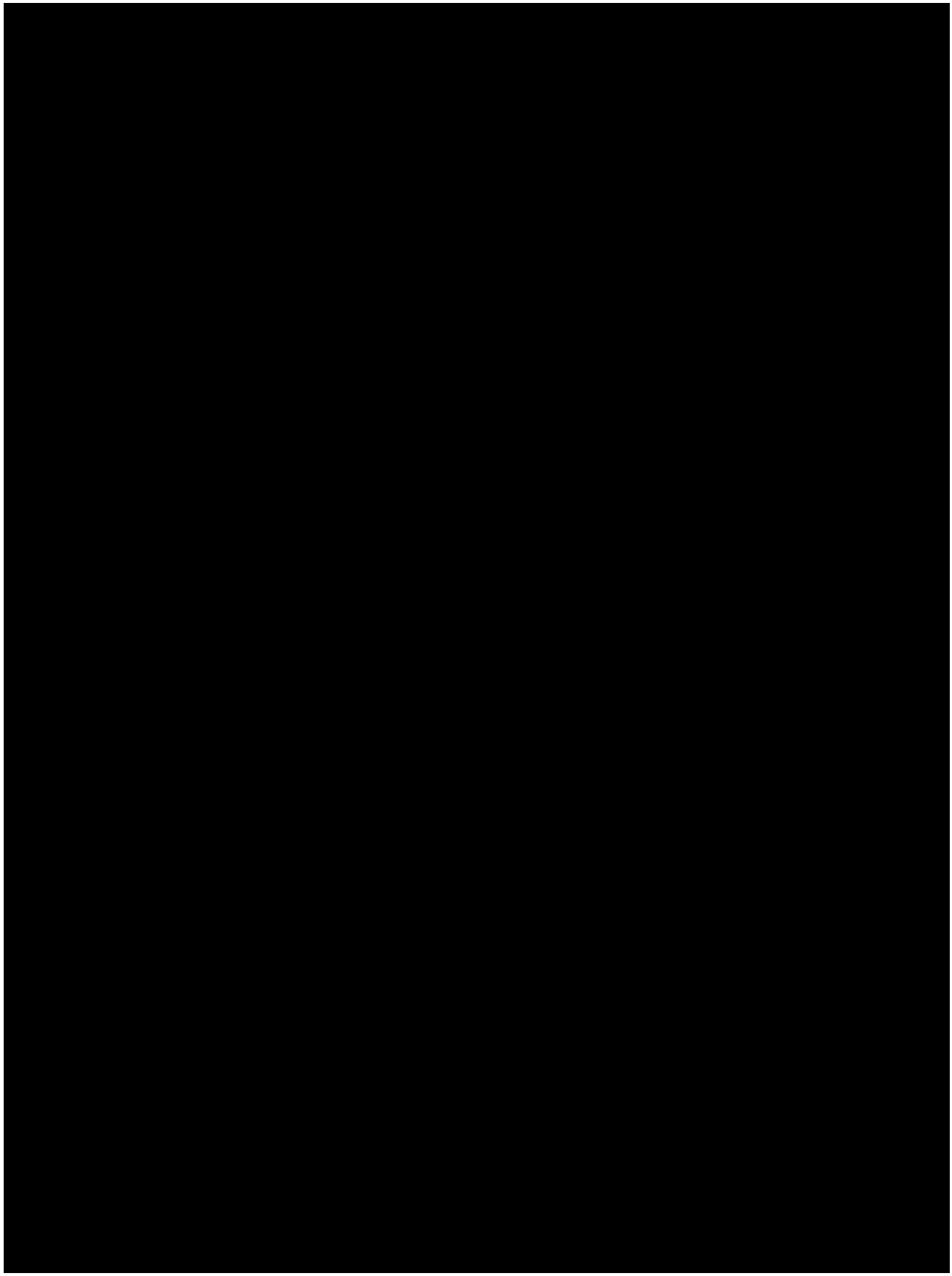
11.4. Design Considerations

11.4.1. Climate Adaptation and Resiliency

As with any offshore installation, offshore wind projects are subject to numerous risks that have the potential to cause physical damage to the facility or otherwise disrupt operations, including extreme weather events and maritime collisions. For that reason, Beacon Wind and its affiliates incorporate these risks into every aspect of project development, including project design, construction, and O&M. Figure 46 provides an overview of physical risks and mitigation measures relevant to the Project.

[redacted]





[redacted]

11.4.2. Responsible Disposal and Recycling of Primary Components

[redacted]

11.5. Lighting Controls Plan

Describe the lighting controls that will be utilized on the Offshore Wind Generation Facility and explain how these controls comply with the minimum contract standards and the Offshore Wind Orders.

Beacon Wind is committed to minimizing the impact of the Project on the view from the associated coastlines. As described further in Section 17 below, Beacon Wind has conducted a detailed study and simulation of the viewshed impact of the Project under a full range of conditions and at various times of day.

To further minimize the potential impact of the Project, Beacon Wind expects to utilize an Aircraft Detection Lighting System ("ADLS"). This system uses radar technology to monitor the airspace over and around the wind farm and ensures that lights will only be activated when aircraft is in the vicinity of the wind farm. The system's detection coverage satisfies the FAA's Obstruction Marking and Lighting Advisory Circular, which sets forth the requirements for lighting obstructions that may be a safety risk to air navigation (AC 70/7460L). In accordance with this requirement, lighting shall be activated and illuminated prior to an aircraft penetrating the perimeter of a group of structures (*e.g.*, WTGs), which is a minimum of 3 nm horizontally and 1,000 ft vertically.

[redacted] If, during later stages of design, it is deemed infeasible, or a better technology becomes available, Beacon Wind will evaluate such technology for use, in consultation with NYSERDA.

The installation of ADLS will reduce the potential impact of the Project on bird and bat species, as well as limit the impact on viewshed resources by minimizing the duration and/or frequency of illumination during nighttime or other appropriate times (*e.g.*, poor visibility). Importantly, detailed assessments of the impact of lighting on birds, bats, and viewshed resources have been carried out and included in the COP submittal required as part of BOEM's environmental assessment process. Beacon Wind performed an ADLS assessment for the Beacon Wind Project as part of its COP, which considered historic air traffic data to determine the total light system activation of obstruction lighting based on the maximum design scenario of the Project Design Envelope. It is important to note that ADLS systems are designed specifically for a project and based on several factors. Therefore, more specific details on anticipated illumination for BW2's ADLS can be developed upon selection of the WTG type, overall height, and layout.

The wind turbines will be lit and marked in accordance with FAA and USCG requirements for aviation and navigation obstruction lighting, respectively. In addition to adhering to FAA filing requirements for the wind turbines, Beacon Wind will light and mark all wind turbines in accordance with FAA Advisory Circular 70/7460-1L, BOEM's Guidelines for Providing Information on Lighting and Marking of Structures Supporting Renewable Energy Development (2021), and International Association of Marine Aids to Navigation and Lighthouse Authorities Recommendation O-139 on The Marking of Man-Made Offshore Structures or most current requirements.

12. PROJECT SCHEDULE

A Proposer must demonstrate that its Project can be developed, financed, and constructed within a commercially reasonable timeframe. Proposer is required to provide sufficient information and documentation showing that Proposer's resources, process, and schedule are adequate for the acquisition of all rights, permits, and approvals for the financing of the Project consistent with the proposed milestone dates that support the proposed Commercial Operation Date(s).

Proposers are required to provide a complete critical path schedule for the Project from the notice of award to the start of commercial operations. Provide a detailed Gantt chart equivalent in a working Excel file (the required Project Schedule attachment) for each Project element listed below, provide the start and end dates:

1. Identify the elements on the critical path. The schedule should include, at a minimum, preliminary engineering, financing, acquisition of real property rights, Federal, state and/or local permits, licenses, environmental assessments and/or environmental impact statements (including anticipated permit submittal and approval dates), completion of interconnection studies and approvals culminating in the execution of the NYISO Interconnection Service Agreement, financial close, engineer/procure/construct contracts, start of construction, construction schedule, and any other requirements that could influence the Project schedule.

Beacon Wind and its affiliates have developed a detailed and standardized approach to planning and executing offshore wind projects, which has been used to successfully execute large and complex projects in Europe. This approach is tailored to provide a basis for well-informed decision-making, ensure effective use of time and resources, and provide certainty to our stakeholders and partners.

As such, the Project has a Project Master Schedule ("PMS"), which integrates the major tasks associated with the development of the Project. This schedule has been developed where relevant with input from manufacturers and the supply chain and builds on Empire Wind and Beacon Wind's experience to ensure that it is realistic and achievable given current conditions and main assumptions. As the Project collects more data and continues to mature its respective designs, the schedule will be refined to incorporate these developments.

The schedule for the Project is comprised of several defined work packages, some of which will be executed concurrently. Below is a brief overview of the scheduling context and strategy for the Project, followed by a discussion of each work package, its major components, and associated timeline.

[redacted]

[redacted]

12.1. Permitting and Site Survey

As further detailed in Section 10, Beacon Wind will be required to obtain a range of local, state, and federal permits in order to construct the Project. Permitting is an integrated part of the project schedule and includes studies, assessments, and surveys for the COP and local permitting. Section 10.1 provides a detailed overview of the permits that will be required for the development of the Project and Beacon Wind's progress to date in obtaining the requisite approvals.

Information concerning Beacon Wind's plan for interconnection of the Project and the associated land acquisition requirements is provided in Section 8 and the associated attachments.

[redacted]

12.2. Construction Schedule

Beacon Wind has developed a detailed schedule for the engineering, procurement, fabrication, and installation of major components of the Project. This schedule has been developed through extensive dialogue with prospective suppliers as well as Beacon Wind and its affiliates' experience developing offshore wind facilities of similar size and scope. A consolidated view of the construction schedules are provided in [redacted] following sections provide a more granular breakdown of the timing of the engineering, procurement, fabrication, and installation of individual components of the Project.

12.2.1. Wind Turbine Generators

[redacted]

12.2.2. WTG Foundations

[redacted]

12.2.3. Cables

[redacted]

12.2.4. Electrical System

Beacon Wind has commissioned several studies covering the necessary equipment and layout of the offshore and onshore substations. The results of a concept study performed in 2021 and 2022 will be used to confirm the electrical equipment for the onshore and offshore substations and form the electrical system design. The equipment chosen for the onshore and offshore substations will provide the basis for the layouts, procurement, fabrication, and pre-commissioning of the onshore and offshore substations.

[redacted]

12.2.5. Marine Operations

As the Project develops, the marine construction schedule will be further optimized to allow for simultaneous work on different aspects of the project. Additionally, each schedule notes the restriciton windows applied to the marine operations of the Project and have been incorporated into the planning process as well as the weather data.

[redacted]

[redacted]

12.3. Decommissioning

Beacon Wind is committed to responsibly developing the Project, including the eventual decommissioning of the Project in compliance with applicable regulations and the stipulations in Beacon Wind's leases. Given the current stage of development, a decommissioning timeline has not been established. Prior to the end of the project lifetime, Beacon Wind will conduct an assessment of the project site employing best practices and analytical methods to determine the feasibility and potential risks associated with decommissioning. The results of this analysis will then be reflected in a decommissioning application, which will be submitted to BOEM for review and approval prior to the commencement of decommissioning activities. [redacted]

12.4. Offshore Construction Windows

2. Describe the anticipated permissible offshore construction windows, and how the construction milestones will be accommodated within these windows.

Installation windows have been established based on the metocean characteristics of the lease area in order to maximize efficiency in the project marine operations. These windows take into account available weather data and the operational limitations of the various marine operations. Some of the analysis is performed by installation contractors and verified by Beacon Wind while others are performed entirely by Beacon Wind and its affiliates based on their extensive maritime operations experience. This analysis utilizes proprietary marine operations simulation software, MARSIM and COSMO, as well as publicly available software from Shoreline.

Equinor and bp have vast experience conducting complex marine installation activities as a result of their oil, gas, and offshore wind projects. This experience has been applied to the design of a realistic installation schedule for the Project that takes into account the full range of factors that have the potential to impact marine operations, including environmental restrictions and regulations, and expected weather conditions.

Marine Installation activities can occur year-round, but the preferred windows for each task are provided below. [redacted]

Given their vast experience conducting complex marine operations, Beacon Wind and its affiliates have developed a variety of procedures to ensure that project components are ready during a given installation window. These procedures include ensuring timely delivery of components, inspection for compliance with specifications, and coordinating vessel activities to allow for efficient use of resources.

[redacted]

12.4.1. Marine Installations by Year

[redacted]

[redacted]

12.5. Critical Path Schedule

3. Detail the status of all critical path items, such as receipt of all necessary siting, environmental, and NYISO approvals. Provide a detailed plan and timeline for the acquisition of any additional rights necessary for interconnection and for the generator lead line right-of-way.

The preceding sections provide a detailed description of critical path items and key development activities. Section 10 also provides a detailed overview of the status of the various necessary permitting approvals. Figure 47 below provides a summary of the status of the relevant critical path and development activities. Attachment 12.I provides a detailed critical path schedule.

[redacted]

A detailed Gantt chart in a working Excel file is provided in Attachment 12.J.

13. CONSTRUCTION AND LOGISTICS

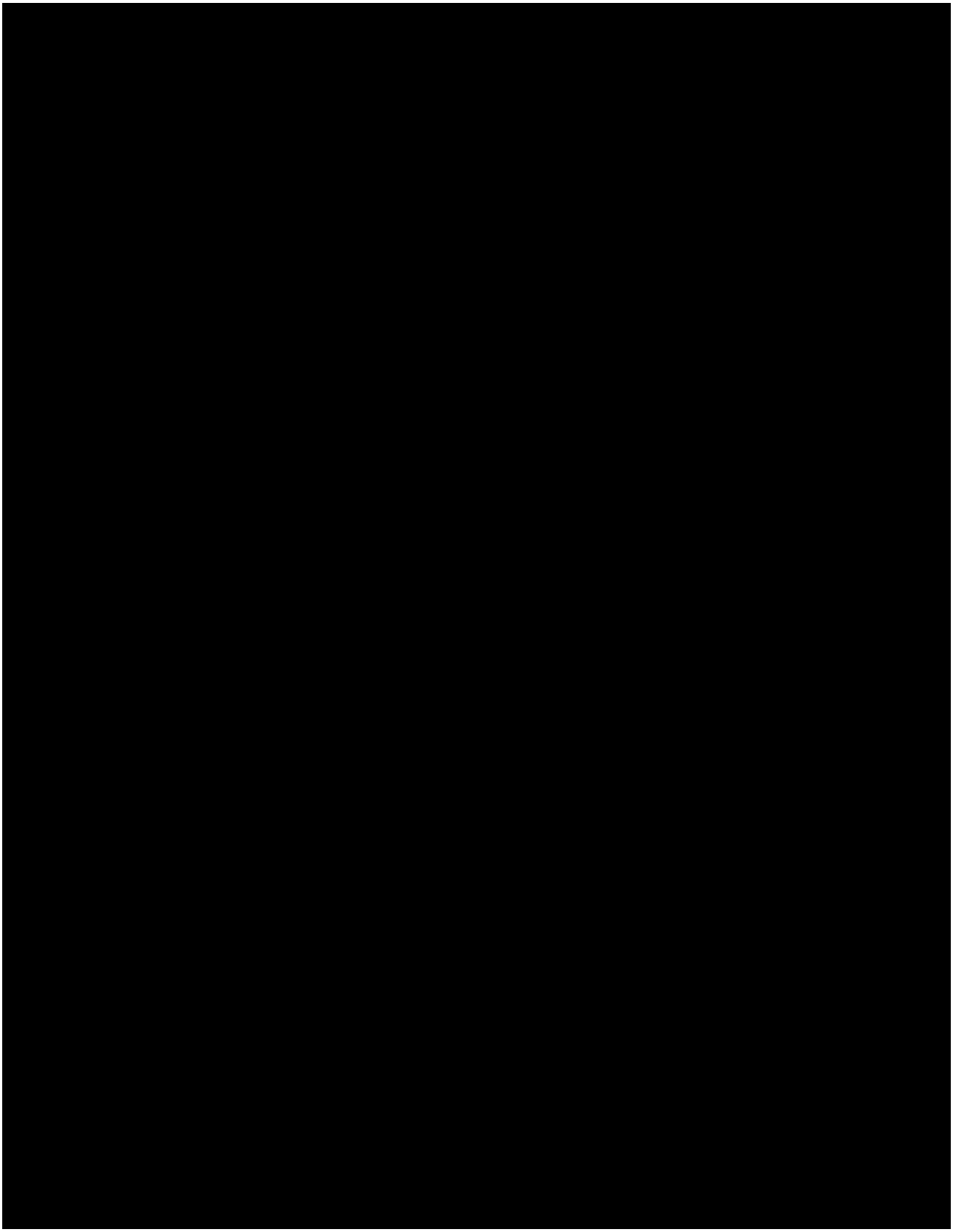
This section of the Proposal addresses necessary arrangements and processes for outfitting, assembly, storage, and deployment of Primary Components. Please provide a construction and logistics plan that captures the following objectives.

13.1. Major Tasks and Necessary Equipment

1. List the major tasks or steps associated with deployment of the proposed Project and the necessary specialized equipment (e.g., vessels, cranes).

The construction and deployment plan for the Project is based on experience gained over the course of Equinor's and bp's decades of constructing and deploying large scale offshore energy projects around the world. The construction and deployment plan for the Project has been calibrated to ensure timely completion of the Project given the characteristics of each lease area, the availability of necessary equipment and vessels, and offshore installation vessels.

Figure 48 below provides an overview of the major tasks associated with deployment of BW2 and the equipment necessary for each task.



[redacted]

13.2. Third Party Roles

2. List the party or parties responsible for each deployment activity and describe the role of each party. Describe the status of Proposer's contractual agreements with third-party equipment/service providers.

An overview of the division of roles and responsibilities respecting staging and deployment activities is provided in Section 13.4. Section 11.2.7 provides an overview of the service providers that Beacon Wind and its affiliates have engaged in connection with EW. Beacon Wind and its affiliates will seek to capture efficiencies between EW and BW where appropriate.

As to progress specific to BW, Beacon Wind has entered into a Preferred Supplier Agreement with Phoenix II as a qualified transportation and installation contractor for transportation and installation of the wind turbine components. Additionally, Beacon Wind has entered into a Preferred Supply Agreement with Heerema Marine Contractors as the qualified transportation and installation contractor [redacted] Beacon Wind remains in discussion with other potential contractors to support staging and deployment activities. A detailed overview of the timing of finalizing these arrangements is provided in Section 12 and the associated Attachments.

13.3. Marine Terminals and Waterfront Facilities

3. Identify the marine terminals and other waterfront facilities that will be used to stage, assemble, and deploy the Project for each stage of construction.

a. If available, evidence that Proposer or the equipment/service provider have right(s) to use a marine terminal and/or waterfront facility for construction of the Project (e.g., by virtue of ownership or land development rights obtained from the owner).

b. If not available, describe the status of acquisition of real property rights for necessary marine terminal and/or waterfront facilities, any options in place for the exercise of these rights and describe the plan for securing the necessary real property rights, including the proposed timeline. Include these plans and the timeline in the overall Project Schedule in Section 6.4.12.

c. Identify any joint use of existing or proposed real property rights for marine terminal or waterfront facilities.

The following sections provide an overview of the port facilities that Beacon Wind currently plans to use to support the development and operation of BW. The status of acquisition of the necessary real property rights are discussed in the associated SCIPs.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

13.4. Staging and Deployment

4. Describe the proposed approach for staging and deployment of Primary Components to the Project site. Include a description and discussion of the laydown facility/facilities to be used for construction, assembly, staging, storage, and deployment.

With decades of experience developing offshore oil, gas, and wind facilities, Beacon Wind and its affiliates have a proven track record of successfully staging and deploying large scale, offshore wind energy projects. This experience includes extensive experience coordinating port and maritime activities and employ industry best practices to seamlessly coordinate port and maritime operations to ensure the timely and cost-effective construction of offshore projects while minimizing disruption to maritime and fisheries resources.

The construction plan for the Project incorporates the insights gained from affiliated offshore wind projects and best practices gained over decades of developing offshore projects. Beacon Wind and its affiliates utilize industry leading best practices based on years of experience in planning, executing and operating challenging offshore energy projects to the highest standards. Furthermore, Beacon Wind's affiliates use ("Key Performance Indicators") KPIs to evaluate a project's development and provide insights for future improvements of these systems. Based on this experience, construction activities will be primarily divided into onshore and offshore components.

[redacted] The process of manufacturing, shipping, assembly, and in-field installation of major project components is discussed below. Detailed information regarding the project schedule is provided in Section 12.

13.4.1. WTGs

The staging and deployment of the WTGs will consist of the following distinct tasks and are the same for the Project:

- Fabrication
- Transportation to staging port and staging
- Transportation to site from the staging port and installation at the project site
- Commissioning

Fabrication

[redacted]

[redacted]

Transportation to Local Staging Port and Staging

[redacted]

[redacted] An example of the types of vessels that typically are used for component transportation can be found in Figure 51 below.

[redacted]

[redacted]

[redacted]

Transportation to Site and Installation

Once pre-installation preparation and testing are complete, the wind turbines will be loaded on a transport barge for transportation to the project site. The schedule focuses on achieving a sufficient inventory of component at the staging port to ensure a high efficiency for the installation vessel.

The transportation and installation process will continue year-round until construction of the project is complete. As a general matter, Beacon Wind expects there to be some delays due to adverse weather, but the current project schedule, detailed in Section 12, has been tailored to account for these delays. Beacon Wind has entered into a Preferred Supplier Agreement with Phoenix II as a qualified transportation and installation contractor for transportation and installation of the wind turbine components. The contractor will be responsible for selecting the methodology that will be used to safely transport the components from the staging port to each lease area in compliance with the Jones Act. [redacted]

[redacted]

[redacted]

Commissioning

Following installation, the WTGs will be prepared for operation and energization. [redacted]

[redacted]

[redacted]

13.4.2. Foundations

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]

jacket structure. Once complete, the suction buckets are joined to the bottom of the jacket prior to transportation. Figure 54 depicts a jacket foundation.

Figure 54: Jacket Foundation Being Prepared for Suction Bucket Connection

[redacted]

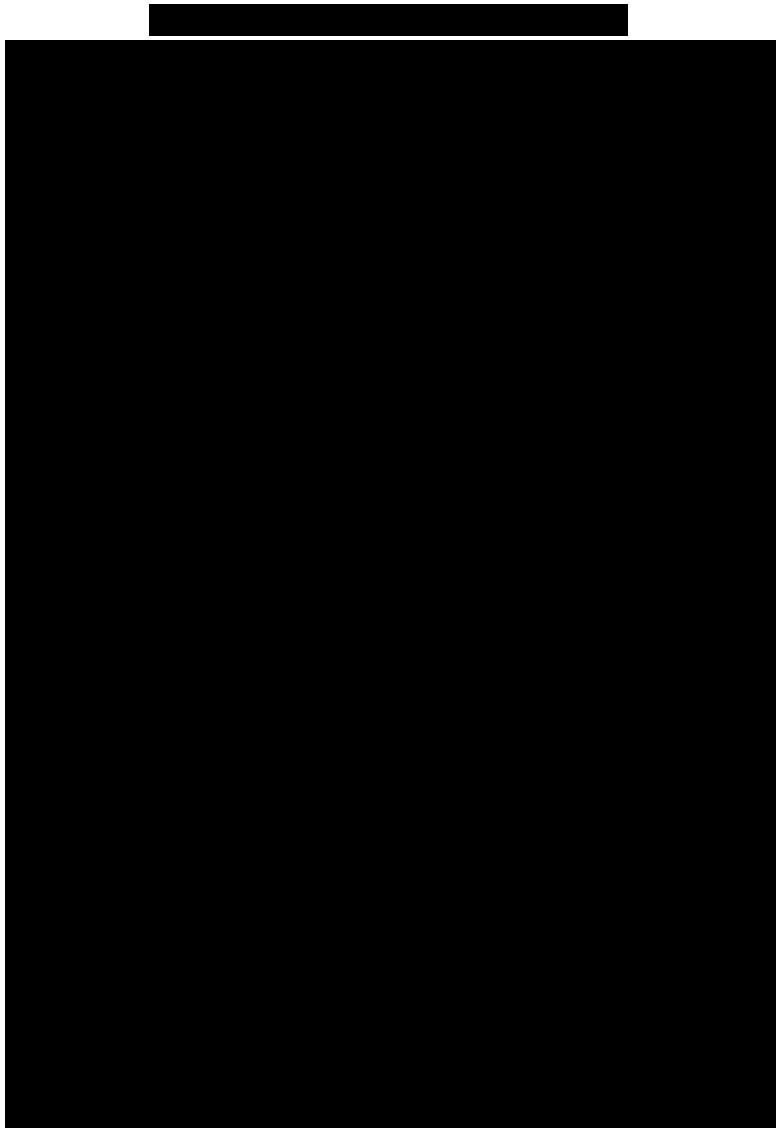
[redacted]

[redacted]

[redacted]

[redacted]

[redacted]



13.4.3. Export Cables

Fabrication and Installation of the submarine export cables will consist of the following steps:

- Fabrication and Transportation
- Surveys and seabed prep work
- Laying and Burial
- Pull-in through the onshore landfall HDD conduits
- Connection to offshore substation

[redacted]

Fabrication and Transportation

[redacted]

[redacted]

[redacted]

Surveys and Grapnel Run

[redacted].

Laying and Burial

[redacted]

Connection to Offshore Substation

Export and inter-array cable connection to the offshore substation will be executed in accordance with industry best practices. When the CLV reaches the offshore substation, a messenger wire that was preinstalled in the foundation J-tubes will be secured to the end of the cable. The messenger wire will then be pulled into the offshore substation cable deck through the J-tubes and attached to the hang off points before energization and commissioning.

13.4.4. Offshore Substation

The staging and deployment of the offshore substation will consist of the following steps:

- Fabrication
- Transportation to project site
- Installation

Fabrication

[redacted]

Transportation

[redacted]

[redacted]

Installation

The transport marine spread with the offshore substation topside on deck will meet the HLV at the installation site. Prior to topside installation, the jacket will be prepared for topside installation. Once complete, the HLV will lift the topside and install onto the preinstalled jacket. Upon landing the topside onto the jacket, the steel interface between topside and jacket will be welded together. Figure 60 below depicts an HLV installation of the offshore substation.

[redacted]

Upon completion of topside installation, offshore substation commissioning will commence. [redacted]

13.4.5. Inter-Array Cable

The inter-array cable installation process is similar to the export cable installation process described above, including:

- Fabrication and transportation
- Surveys and pre-grapnel run
- Laying and Burial
- Connection to offshore substation

The cables will be loaded on the CLV in long lengths and cut at correct lengths during the cable installation process. The WTGs will be interconnected to the offshore substation through an inter-array network. The selected installation contractor will begin cable installation shortly after the first foundation is completed. Based on surveys characterizing the cable lay route, the cable path will be cleared using a pre-lay grapnel train run similar to the export cable installation process. At each foundation location, the pre-installed messenger lines will be connected to the

array cable and used to guide the cable through the foundation J-tubes and up to the transition piece. Once at the transition piece, the cable will be temporarily secured at the hang-off points to allow the CLV to lay cable away from the foundation in the direction of the next connection point at the next foundation. Once the appropriate length has been reached, the cable is cut and attached to the messenger line system on the second foundation. The cable is then pulled into the second foundation and secured at the hang off point. Once both ends are properly installed, the section laying on the sea floor in between the two foundations will be buried with the aid of a trench and lay vessel. After that, the cables will be permanently integrated into the electrical components in the transition piece and prepared for commissioning.

13.4.6. Onshore Landfall and Cable Routing

Onshore landfall and cable routing will consist of the following steps

- Surveys and ground investigations
- Cable Landfall
- Onshore export cable installation

Surveys and Ground Investigations

Environmental surveys and ground investigations are currently in progress and will support the design and construction activities at the landfall location and along the cable corridor from the landfall to the substation site. This information will inform the design and permitting of the project, as appropriate.

Cable Landfall

[redacted]

[redacted]

[redacted] Figure 62 below provides an overview of the BW2 onshore cable route.

[redacted]

13.4.7. Onshore Substation Facility

[redacted]

Electrical Equipment Installation

[redacted]

The electrical HV equipment typically includes:

- Transformers
- Reactors
- Harmonic filters
- Switchgears

Due to the size and complexity of some of the equipment, specialized transport and installation personnel will be utilized. Utility systems, instruments, and automation systems will also be installed at this time followed by their associated instrument panels, batteries, and control equipment. The cables connecting the equipment will be installed through the preinstalled ducts and cable pull-through. The export cables will be connected to the switchgear/high voltage breaker after high voltage testing is complete.

Commissioning and Energization

Prior to energizing the onshore substation all utility systems, instruments, and automation systems must be fully tested and commissioned. The entire process for the Project will be performed in coordination with the NYISO.

[redacted]

[redacted]

13.4.8. Grid Interconnection and Network Upgrades

Based on the known and expected POI and system upgrades, Beacon Wind anticipates that the grid interconnection and network upgrades required to accommodate the interconnection of BW2 will be completed by [redacted]

13.5. Number Type and Size of Vessels

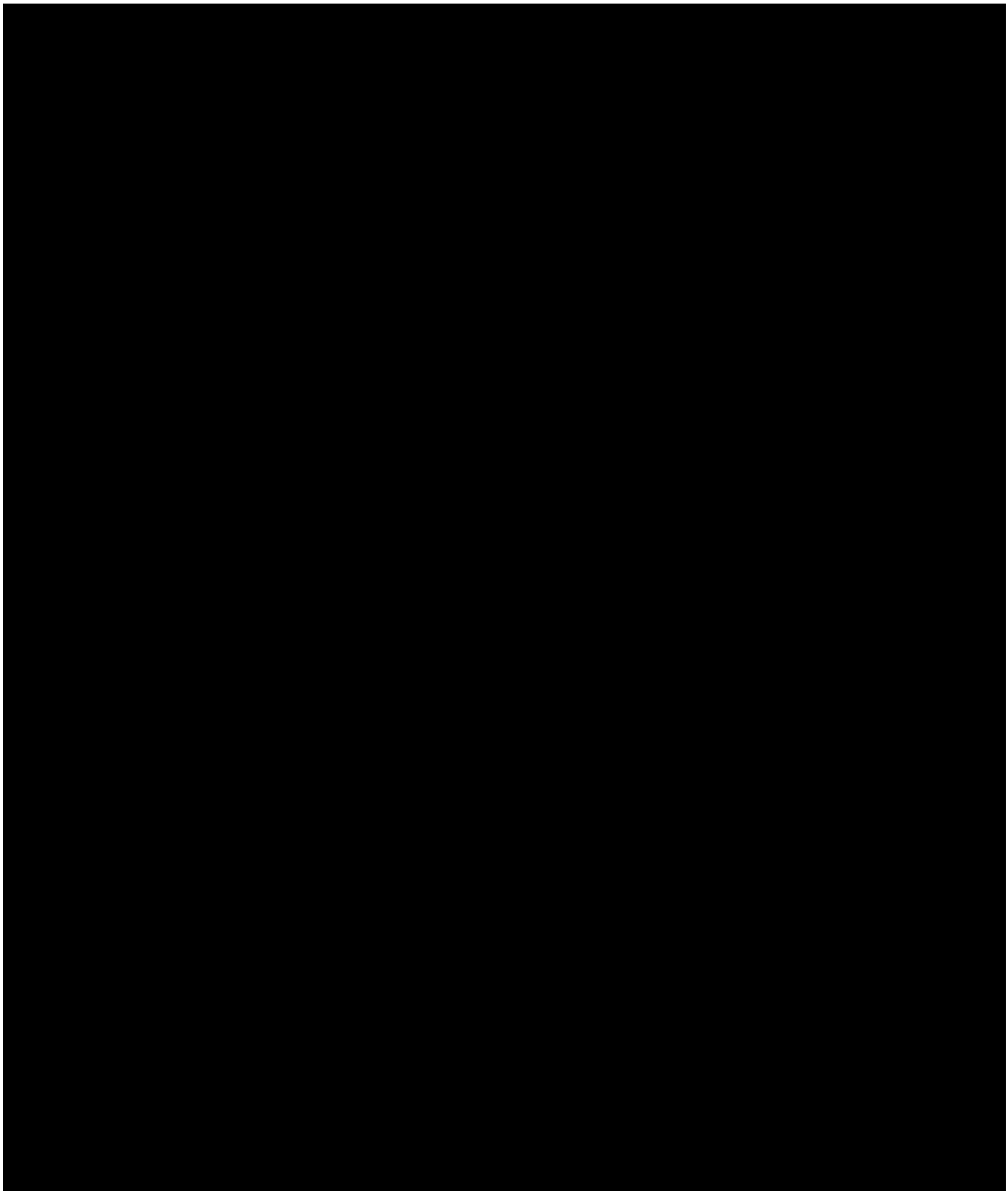
Indicate the number, type and size of vessels that will be used, their respective uses, and how vessels will be secured for the required construction period. Explain how Proposer's deployment strategy will conform to requirements of the Merchant Marine Act of 1920 (the Jones Act).

Due to the nascent development of offshore wind farm projects in the U.S., there are a limited number of Jones Act-compliant vessels that are also feasible for offshore wind construction. Therefore, in order to develop the project safely and in a cost efficient manner, some foreign vessels will need to be used.

Beacon Wind and its affiliates have extensive experience in vetting vessels for use in their marine operations and have already taken material steps to secure the vessels necessary to support the development of the Beacon Wind Project. For instance, Beacon Wind and its affiliates have entered into contracts with Heerema Marine Contractors to provide the vessels necessary to support foundation and offshore substation transportation and installation for the Beacon Wind Project. Beacon Wind also has entered into a contract with Phoenix II as a charter party for WTG transport from SBMT and installation in the Beacon Wind lease area.

Beacon Wind is committed to complying with all Jones Act regulations throughout all project development stages. [redacted]

[redacted]



14. FISHERIES MITIGATION PLAN

Proposers must include in their Proposal a Fisheries Mitigation Plan in as much detail as possible that describes how Proposer will mitigate adverse impacts on the commercial fishing industry that may be caused by the Project. A narrative description of the Fisheries Mitigation Plan should be included in the Proposal Narrative. The Elements of the Fisheries Mitigation Plan should be submitted as the required Fisheries Mitigation Plan attachment. Both confidential and public versions of the Fisheries Mitigation Plan must be included in the Submission. The public version of each 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.

Elements of the Fisheries Mitigation Plan are described in detail in Appendix D. 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.

14.1. 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.

Beacon Wind welcomes the opportunity to submit a Fisheries Mitigation Plan ("FMP") for BW2 as part of its application to supply offshore renewable energy certificates to New York. From experience developing offshore wind energy facilities, Beacon Wind believes that the responsible development of offshore wind energy resources can be compatible with fisheries resources and commercial and recreational fishing.

Beacon 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. Beacon Wind's approach to fisheries mitigation is founded upon the fisheries mitigation hierarchy. More specifically, this approach means that Beacon Wind anticipates and avoid impacts to fisheries resources and fishers, minimize impacts where avoidance is not possible, and take steps to offset any significant residual adverse impacts that are predicted to remain.

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

Project. Pre- and post-construction monitoring shall be designed to improve the understanding of impacts of offshore wind energy development and operations on fisheries.

Beacon 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. Beacon Wind recognizes the importance of adaptive management and will continue to improve and mature its procedures to evaluate and mitigate impacts to fisheries resources. Beacon Wind has gained extensive experience through developing and implementing the Fisheries Mitigation Plans for the EW1, EW2, and BW1 projects. It has brought all of this experience to bear in the development of this Fisheries Mitigation Plan and will continue to implement lessoned learned and best practices as the portfolio develops.

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

- 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;
- 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;
- Collaborating with neighboring offshore wind projects and applying data and fisheries feedback in the early spatial planning for Beacon Wind lease area by establishing a 1x1 nm turbine spacing layout with clear directional rows to minimize impacts on fishing and facilitate continued safe access to traditional fishing grounds.

Mitigation measures will be identified and developed with relevant fisheries stakeholders through an iterative process occurring during project design, siting structures, cable route planning, scheduling of work, and design of construction and operations methods.

The following sections summarize Beacon 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 Beacon Wind will work with the fishing industry to avoid or minimize impacts and collaborate on conducting research and monitoring. Naturally, the Fisheries Mitigation Plan will continue to evolve through consultation with the F-TWG and the fishing industry as BW2 develops.

14.2. 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 and the Order Authorizing Offshore Wind Solicitation in 2020 issued on April 23, 2020 pursuant to Case No. 18-E-0071, 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 stakeholders relevant to 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.

Beacon Wind believes that regular, open, and broad consultation is key to ensuring that all parties are well informed of Beacon Wind's offshore wind plans, designs, and activities so that they may provide meaningful input in design and mitigation options. Beacon Wind intends for its fisheries outreach will 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. Beacon Wind notes that this approach has proven effective and well-received throughout the continuing development of its projects in the New England Wind Energy Area and submission of the Empire and Beacon Wind COPs. Beacon Wind has included a list of its communication officers in the FMP for BW2 (Attachment 14.A) to facilitate discussion of particular issues.

Beacon Wind has established a comprehensive internal database of local and regional fisheries associations, societies, groups, individual fishers, and the various industry organizations. This database is maintained and regularly updated by the FLO in conjunction with Beacon 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 FLOs' and Fisheries Manager's liaison and industry experience;
- Contacting fishing industry association leaders;
- Attending Fishery Management Council meetings;
- Attending meetings related to offshore wind and fisheries interactions;
- Manning stands at commercial and recreational fishing forums;
- Recommendations from state and federal fisheries staff;
- Fisheries Management Council Advisory Panel lists online;

- 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 OFLR;
- NMFS 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).

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

- Beacon Wind is participating in the Environmental Technical Working Group (E-TWG) and its current representation on the E-TWG can be found within the Environmental Mitigation Plan being submitted with this proposal (Attachment 15.A).
- Beacon Wind attends "State of the Science" workshops and participates in focal species workgroups.
- Beacon Wind will consult with New England state agencies, as appropriate.
- Beacon Wind participates in other state Fisheries Working Groups, for example the Massachusetts Fisheries Working Group.
- Beacon Wind is a founding member of the RODA joint industry task force.
- Beacon Wind is a founding board member of Responsible Offshore Science Alliance (ROSA) and participates as a member of the advisory council.
- Beacon Wind hosts webinars for fisheries open houses during COVID-19 pandemic and will likely use this as a communication tool on the go forward.
- Beacon Wind's Fisheries Manager is a member of the New England Fisheries Management Council (NEFMC) Habitat Advisory Panel.

Beacon Wind will continue to participate in the F-TWG, represented by those listed within the Communication Officers table in the FMP (Attachment 14.A). Beacon 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, Beacon Wind will 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.

Beacon 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 BW;
- Consulting on benthic and fisheries resources;
- Introducing and updating New York State agencies to Beacon Wind, which included a September 25, 2020 introductory presentation and a September 20, 2022 project

presentation at the NYSERDA meeting; the New York State agencies Beacon Wind has engaged with and continues to engage with include:

- New York Department of State (NYSDOS); New York State Department of Environmental Conservation (NYSDEC);
- New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP);
- New York State Department of Public Service (NYSDPS);
- New York Office of General Services (NYSOGS); and
- New York State Energy Research and Development Authority (NYSERDA).

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

Beacon Wind communicates with vessels actively fishing in areas in or adjacent to the Project's area during site assessment activities. Beacon 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:

- Notification of upcoming site assessment and/or construction activities via various sources, including Survey Flyers, LNMs, email notifications, details on project-specific webpages and relevant fisheries web pages.
- 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 and Fisheries Manager 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.
- Where appropriate, scout vessels acting on behalf of Beacon 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 FLOs 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 FLOs consult with individual fishermen, fishing organizations, fishing councils and working groups, Local, State and Federal governments, academia, and interested individuals. Email, regular port and dock visits, phone calls and texts are primary means of communications to the fishing industry along with Fisheries Open Houses, presentations and sponsoring and attending

fishing show and expos. At the request of a state agency, Beacon Wind distributed hard mailings to over 2,500 contacts.

Beacon Wind will always be open to consideration of other means or methods that would provide for effective and efficient communication with the fisheries stakeholders.

14.3. Monitoring and Research

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, 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 patters 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.

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 2.2.6 of the RFP.

Beacon 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. Beacon 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 Beacon 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).

Beacon Wind will explore appropriate monitoring and research protocols, including, for example, monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources or fishing practices as a direct result of the offshore wind energy development. Monitoring plans for BW are not yet defined, but will leverage the learnings of the Empire Wind monitoring plans which are currently under development and review by various Federal and State agencies, as well eNGOs and other SMEs. Beacon Wind will continue to consult and collaborate with the fishing industry, regulators, other interest groups and other wind developers as the monitoring plans are developed. Baseline data characterization and monitoring will be 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.

Beacon Wind has 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 NYSERDA's Master Plan Fish and Fisheries Study (2017; Appendix J).
- 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.

[redacted]

14.3.1. Pre-Construction

Beacon Wind acknowledges that ongoing research and monitoring for each of the project sites and at a wider regional scale is important to refine the understanding of impacts, potential mitigation options, and for future planning purposes for benthic and fisheries resources,

including facilitating the responsible leasing and development of future offshore wind energy areas within the Northeast and Mid-Atlantic Ocean.

Beacon Wind has collected data of benthic and fisheries resources to inform the baseline characterization of benthic and fisheries resources. Data supporting baseline conditions of BW include:

- NOAA National Centers for Coastal Ocean Science and BOEM Comprehensive Seafloor Substrate Mapping and Model Validation in the Atlantic research/survey collected sediment grab samples at 400 locations in the lease area, as well as bathymetric data and opportunistic fisheries data.
    - Status: Complete
- Beacon Wind commissioned benthic sampling in 2018 by Gardline Environmental covering the entire Lease Area and which builds on previous comprehensive benthic surveys carried out by NOAA's National Center for Coastal Ocean Science (NOS). These Beacon Wind surveys were conducted at a total of 67 sample stations and included grab samples and drop-down digital video and stills imagery. Grab samples were analyzed for sediment grain size distribution and macro faunal analysis. This report has been made publicly available for download from the Beacon Wind website.
    - Status: Complete
- Beacon Wind commissioned a benthic sampling that was conducted in 2019 by Inspire Environmental and which covered the proposed potential export cable routes for the Lease Area. Sampling included Sediment Profile Imaging (SPI) and Plan View (PV) imaging at 157 sample stations, with 15 reference stations and sediment grab samples for sediment grain size analysis and macrofaunal analysis for verification. This report has been made publicly available for download from the Beacon Wind website.
    - Status: Complete
- Geophysical, benthic habitat (through geophysical interpretation), and geotechnical surveys from March 2018 to November 2018 across the entire Lease Area and export cable corridors, with additional geophysical and geotechnical surveys, was carried out in 2019 to fill in data gaps and cover areas from landfall to the 65 ft (20 m) depth contour.
    - Status: Complete
- Beacon Wind commissioned geophysical and benthic sampling conducted in August 2020 by MMT and which covered the entire Lease Area. Cable route surveys were conducted in 2021 along with a comprehensive benthic assessment program covering the lease area and cable route corridors.
    - Status: Complete
- Beacon Wind has funded a study by the Anderson Cabot Center for Ocean Life at the New England Aquarium to establish monitoring systems to assess the impacts of offshore wind development on highly migratory species (HMS; sharks, tunas, billfishes) and the large recreational fishery that targets them. The study has been ongoing since May 2021 and

Beacon Wind plans to continue providing support for this initiative for the next 5 years. The study will expand upon a Massachusetts Clean Energy Center (MassCEC) project to monitor Highly Migratory Species (HMS) presence and will also work to monitor recreational fishing activities for HMS.
    - Status: Active
- Beacon Wind notes that for the Beacon Wind project, neighboring lease holders are also engaged in the collection of baseline data that will strengthen the regional understanding of baseline characterization within the Project Area.
    - Status: Active
- Beacon Wind, in consultation with NOAA GARFO, will be preparing benthic habitat mapping for the Project Area to inform the Essential Fish Habitat (EFH) Assessment.
    - Status: Active
- With the site specific and existing benthic data, and the existing fisheries data, there is sufficient data for the purpose of the COP impact assessments, spatial planning and/or mitigation. However, Beacon Wind will consult with F-TWG, E-TWG, and relevant federal agencies and stakeholders on requirements for further surveys for targeted benthic and fisheries monitoring and research for BW.

Current and historical use of the BW project area by commercial and recreational fisheries will continue to be determined by the communication and collaboration approaches described in Section 14.2. Monitoring changes in pre and post construction fishing effort due to the presence of an offshore wind energy development can be challenging. Many factors dictate fishing effort within a given area on a seasonal and year by year basis which make statistically detecting "change" difficult. For example, fishing effort may be influenced by factors independent of an offshore wind farm such as quota, presence of a mobile species, market prices, fuel prices, and fisheries closures. As such, due to the complexities and the need to design a methodology that has both industry and fisheries support, Beacon Wind proposes that if required, such studies be discussed as part of the F-TWG.

14.3.2. During Construction

Beacon Wind is committed to exploring appropriate monitoring protocols, which might include, for example, monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources or fishing practices as a direct result of Beacon Wind's offshore wind energy development. Monitoring and research should ideally be targeted towards interactions between offshore wind projects and the receptors it is being judged against.

Beacon Wind is open to monitoring that explores other approaches to detect and quantify change, where further monitoring is appropriate, for example behavioral responses. Beacon Wind will work with the regulatory agencies, F-TWG, and relevant stakeholders to identify research and monitoring needs and agree on methodology. Ideally, specific questions and focal taxa shall be chosen for the project either based on site-specific fisheries risk assessment(s), or

in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species. Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis. However, for some biological monitoring, this level of robustness to adequately detect change as a direct result of an offshore wind farm is not always possible as many outside factors can influence these variations with much greater significance than the factors that can be attributed to causes from offshore wind energy developments (e.g., seawater temperature, nutrient levels, etc.).

14.3.3. Post Construction

Detecting change in biological resources such as fisheries resources as a direct result of an offshore wind development can be challenging, as the fisheries resource may be subject to natural fluctuations in abundance and spatial and temporal distribution due to outside factors, for example oceanographic conditions. As such, any proposals for monitoring should be statistically robust, and Beacon Wind advocates for technical experts to conduct statistical power analyses up front in the planning process before implementing future studies. Beacon Wind is committed to exploring appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources as a direct result of its offshore wind energy development. Beacon Wind will collaborate with F-TWG and E-TWG and seek input from stakeholders on monitoring requirements and methods and is willing to explore collaborative fisheries research and monitoring initiatives with entities such as ROSA.

[redacted]

[redacted] Fisheries data and consultation feedback from the fishing industry and maritime community has resulted in the Beacon Wind Project establishing a 1x1 nm layout along with other developers in the Massachusetts – Rhode Island Wind Energy Area to minimize impacts on existing fishing practices and facilitate ongoing access to traditional fishing grounds. The layout also takes into account existing and future maritime navigation trends and Search and Rescue capabilities.

Monitoring changes in pre- and post-construction fishing activities due to the presence of an offshore wind energy development can be challenging. Many factors influence fishing activities within a given area on both a seasonal and yearly basis, which make statistically detecting “change” difficult. For example, fishing activities may be influenced by factors independent of an offshore wind farm, such as quota, presence of a mobile species, market prices, fuel prices, and fisheries closures. As such, due to the complexities and the need to design a methodology that has both industry and fisheries support, Beacon Wind proposes that if required, such studies be discussed as part of the F-TWG. Beacon Wind is in favor of developing and supporting research

initiatives aimed at improving opportunities for continued and enhanced access for recreational and commercial fishing in the operational offshore wind energy developments. For example, Beacon Wind is supportive of research aimed at innovative technical approaches to issues such as turbine spacing, impacts on navigation equipment, trawling equipment, safety equipment, training, and/or information dissemination options.

If impacts are deemed to be present, Beacon Wind can consider several options, including:

- Exploring whether further mitigation measures can be applied to reduce impacts (e.g., improved access through technical solutions to fishing practices and/or navigation equipment);
- Using adaptive management by applying mitigation in the spatial planning and layouts of later phases of development in the lease area; and
- Sharing the results so that they can be used in adaptive management on a wider scale, for development of future lease areas in the Northeast and Mid-Atlantic Ocean and wider offshore wind energy space.

14.4. 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.

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 related to fish, invertebrates and fisheries, 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 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.

Beacon Wind is committed to collaborating with the scientific community, E-TWG, F-TWG, relevant stakeholders, other offshore wind energy developers, and third-party groups to conduct robust and relevant research studies that relate to fisheries and offshore wind energy developments. 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 Beacon Wind's commitments to protect the environment. Beacon Wind is a board member of ROSA and RWSC and an active member of the ROSA Advisory Council and the RWSC industry caucus. Beacon Wind believes that technical experts should conduct statistical power analyses up front in the planning process before proceeding with future studies. In addition, F-TWG and/or E-TWG are appropriate forums in which to discuss the development of such analyses and should be part of this process.

Beacon Wind is committed to providing to researchers and scientists data that is not commercially sensitive. Oceanographic data not deemed proprietary, for example 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. Beacon Wind will make non-proprietary environmental and fisheries data publicly available in a format and manner best suited for efficient distribution.

Beacon 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. Beacon Wind is willing to consider requests to access Equinor Wind's existing operating offshore wind energy developments in Europe to conduct

research and monitoring and will make an effort to meet with any interested parties when contacted to discuss prospective research.

Beacon 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 both Empire Wind and Beacon Wind collaborations across our regional portfolio):

- Beacon Wind is funding a study with the Anderson Cabot Center for Ocean Life at the New England Aquarium to establish monitoring systems to assess the impacts of offshore wind development on highly migratory species (HMS; sharks, tunas, billfishes) and the large recreational fishery that targets them.
- 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 6 months.
- Empire Wind is collaborating with the Wildlife Conservation Society (WCS) and Woods Hole Oceanographic Institute (WHOI) on real-time large whale detection and notification buoys in a minimum 3-year monitoring program. This includes an exhibit will be set up at the New York Aquarium concerning the program.
- Beacon Wind metocean facilities (e.g., current meters and wave buoys) are currently deployed; oceanographic data, not deemed proprietary will be made available upon request;
- Protected Species Observer (PSO) data is currently being shared in support of a research study being conducted by NMFS and the New England Aquarium to evaluate how PSO data can be utilized to support regional species stock assessments.
- 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 and 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.
- Beacon Wind and its affiliates are committed to continue participating in the development of the Regional Wildlife Science Collaborative as it matures, where Jennifer Dupont (Strategic Environmental Affairs Manager) sits on the Steering Committee. Empire Wind contributes $20,000/year in membership fees to RWSC
- Equinor Wind is a former member of the RODA Task Force.
- Equinor holds a board position on the Atlantic Marine Conservation Society board.
- [redacted]

[redacted]

If selected as a winning bid under this OREC RFP, Beacon Wind is committed to support regional monitoring of wildlife and key commercial fish stocks equivalent to the specified value of $10,000 per MW. 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. These monitoring efforts may be committed via regional monitoring organizations (e.g., ROSA, Regional Wildlife Science Collaborative ("RWSC") or similar) or independently by Beacon Wind.

14.5. 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, 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.

Fisheries data and consultation feedback from the fishing industry and maritime community has resulted in different layout approaches for the US offshore wind portfolio. Beacon 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.

Along with other developers in the Massachusetts-Rhode Island Wind Energy Area, the Beacon Wind project will utilize a 1nm x 1 nm layout with predictable rows to provide consistent turbine layout across the larger area and to minimize impacts on existing fishing practices while facilitating access to traditional fishing grounds. The layout also takes into account existing and future maritime navigation trends and Search and Rescue capabilities.

Beacon 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.

[redacted]

14.6. 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.

Beacon 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 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 COLREGs and the SOLAS and will utilize existing TSSs, maintained channels, and transit lanes to the extent practicable. Beacon 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, Beacon Wind will conduct cable burial surveys at appropriate intervals to assess if target burial depth is being maintained, and Beacon 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. Beacon Wind will consider the use of HDD at the landfall to minimize physical disturbance of coastal habitats. Beacon Wind would implement appropriate measures during HDD activities at landfalls to minimize potential release of HDD fluid. To minimize an inadvertent fluid return, an HDD Contingency Plan would be developed and implemented.

Beacon Wind is consulting with regulatory authorities and fisheries stakeholders for the development and use of a Gear Loss Prevention and Claim Procedure.

14.7. 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.

Beacon Wind will be required to develop a decommissioning plan for BW2, 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 NEPA. [redacted]

Beacon 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. Beacon Wind will consult with the fishing industry on the BW decommissioning plans at the appropriate time, closer to the decommissioning activities. Is should be noted, that with the selection of a suction bucket foundation, the foundations and anchoring buckets can be removed in their entirety. The project will assess the development of any marine habitats and whether there is net positive impact to leaving the buckets in place which will be collaborated with the relevant regulators and stakeholders during the decommissioning plan discussions.

14.8. Fisheries Compensation Plan

If a fisheries compensation plan is being considered to offset impacts, 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 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 fair compensation for impacts that cannot be sufficiently addressed through other means.

[redacted]

14.9. 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-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.

Beacon 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 the potential data sources and/or studies that can better inform these gaps or impacts, and reach consensus on methodologies for conducting meaningful studies.

15. ENVIRONMENTAL MITIGATION PLAN

Proposers must include in their Proposals a detailed Environmental Mitigation Plan that describes how Proposer will mitigate adverse environmental impacts that may be caused by the Project. A narrative description of the Environmental Mitigation Plan should be included in the Proposal Narrative. The Environmental Mitigation Plan should be submitted as the required Environmental Mitigation Plan attachment. Both confidential and public versions of the Environmental Mitigation Plan must be included in the Submission. The public version of each Environmental 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. Elements of the Environmental Mitigation Plan are described in detail in Appendix E. Proposers are advised to review the environmental studies prepared for the New York State Offshore Wind Master Plan with respect to the potential impacts of offshore wind energy development on the environment, 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. As with the Fisheries Mitigation Plan, NYSERDA recognizes that after submission to the agency, the Proposer may change and update the Environmental Mitigation Plan to reflect findings during the environmental reviews conducted by BOEM or New York State. NYSERDA encourages Proposers to consider mitigation measures beyond those that may be legally required by environmental reviews completed under NEPA, SEQRA or other review laws.

15.1. 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.

As a governing philosophy, Beacon Wind is committed to the mitigation hierarchy, and Beacon Wind's implementation of this strategy is reflected in this EMP. Beacon Wind believes that from the outset, measures to avoid or mitigate adverse environmental impacts, while maximizing the positive beneficial environmental impacts of an offshore wind energy project, should be:

- Identified and developed in consultation and coordination with the relevant stakeholders;
- Based on robust baseline characterization that has been developed in consultation with relevant stakeholders;
- Based on evidence and the latest science, and where data gaps exist or the receptor-effect interactions are unknown, such gaps should be filled through targeted data collection, monitoring, and/or research;
- Incorporated into spatial planning, for example, in project siting and design; and
- Applied to how the project is implemented (surveys, construction methods, operations and maintenance activities, and decommissioning).

Beacon Wind recognizes the importance of adaptive management and will continue to improve and mature its procedures for evaluating and mitigating impacts to environmental resources. Beacon Wind also recognizes that existing environmental plans, permitting, and assessment documents have been reviewed by the E-TWG, and Beacon Wind will continue to engage with the E-TWG as these resources continue to be developed and refined. For example, Beacon Wind presented the Empire Wind EMP to the E-TWG and has applied feedback from that process into the EMP developed for BW. The EMP is provided as Attachment 15.B.

15.2. 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 and the Order Authorizing Offshore Wind Solicitation in 2020 issued on April 23, 2020 pursuant to Case No. 18-E-0071, 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 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 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.

Beacon Wind notes that openness and transparency are core values of its approach to engaging with stakeholders. Beacon Wind believes consultation and coordination with relevant stakeholders is important as a means of identifying potential risks or opportunities for sufficiently avoiding and mitigating environmental impacts. This includes sharing updates, plans, results, and information regularly and at all stages of project development so that all stakeholders have sufficient opportunities to input into these processes, while also being sensitive to the potential for stakeholder fatigue.

Beacon Wind has identified and implemented proven steps to identify and to consult with relevant stakeholder groups to get feedback on plans, data, and mitigation. This outreach and involvement increases "buy-in" on decisions in advance of the regulatory process. In other words, this is a "no surprises" approach. The EMP for BW provides information on how potential impacts may be mitigated, with further mitigation measures to be developed in further consultation with the relevant stakeholder groups, including E-TWG and New York State agencies.

Beacon Wind has been active in the E-TWG since its inception and is committed to active participation as a means to collaborate on best practices and research for offshore wind energy development, balancing environmental concerns with responsible technically and commercially feasible development, while fostering opportunities for future offshore wind energy development. Beacon Wind will continue to engage with the E-TWG on the basis of its portfolio

of projects in development, rather than on a project-by-project basis. This approach is intended to streamline communication by providing a single point of contact for information exchange and consistent message. Beacon Wind considers the Environmental NGOs (ENGOs) on E-TWG as a proxy "ENGO steering committee" for engagement with the ENGO community on responsible development and to provide guidance on additional outreach that may be valuable. Beacon Wind will continue to engage with regulatory agencies, ENGOs, research institutions and relevant stakeholders either via independent meetings or through environmental round tables in order to maximize opportunities to discuss the project and solicit feedback. Beacon Wind held its first introductory ENGO roundtable for BW on September 17, 2020, and held another engagement with NYSERDA, the regulatory agencies, ENGOs, E-TWG, and F-TWG on September 20, 2022. Beacon Wind will also proactively engage with ENGOs not directly represented on the E-TWG through direct engagement or environmental round tables hosted by Beacon Wind or others, as appropriate.

Beacon Wind actively participates in numerous working groups, steering committees, or other groups focused on evaluating and reducing environmental impacts from offshore wind development. For instance, Beacon Wind is a Steering Committee member of the Regional Wildlife Science Collaborative ("RWSC") that is working with NYSERDA and other partners to develop and track regional research priorities and provide research support. Multiple Beacon Wind subject matter experts also participate on expert subcommittees within the RWSC. Beacon Wind also is Steering Group member representing the offshore wind developer's caucus for the RWSC. A fuller list of entities and initiatives with which Beacon Wind is involved may be found in its EMP.

15.3. Monitoring and Research

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 2.2.6 of the RFP.

Beacon Wind is committed to collecting and evaluating existing data, conducting research studies, incorporating feedback from the environmental 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. Beacon Wind's efforts to establish baseline data and monitor for potential impacts are and will be 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.

Beacon Wind will explore appropriate monitoring and research protocols, including, for example, monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources or fishing practices as a direct result of the offshore wind energy development. Monitoring plans for BW are not yet fully defined, but will draw on the experiences from EW plans which are being progressed with agency input and engagement, as well as through the E-TWG and F-TWG. Beacon Wind believes these are best formulated in consultation with the fishing industry, regulators, interest groups, and other wind developers. Beacon Wind will make data and analyses from studies that monitor the effects of its offshore wind development available to researchers and scientists, with appropriate limitations on proprietary information.

For the pre-construction, construction, and post-construction phases, Beacon Wind will identify priority taxa or species, and Beacon Wind is committed to using science and relying on technical experts to identify such priorities and establish appropriate monitoring and research approaches.

15.3.1. Pre-Construction

Beacon Wind acknowledges that ongoing research and monitoring for each of the project sites and at a wider regional scale is important to refine the understanding of impacts, potential mitigation options, and for future planning purposes for environmental resources, including facilitating the responsible leasing and development of future offshore wind energy areas within the Northeast and Mid-Atlantic Ocean. Beacon Wind has been establishing baseline data on the spatial and temporal presence of environmental resources in the proposed area of the project using key existing literature, datasets, and studies as needed.

15.3.2. During Construction

Beacon Wind is committed to exploring appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of environmental resources as a direct result of the offshore wind energy development. Monitoring and research should ideally be targeted towards interactions between offshore wind energy developments and the receptors it is being judged against.

Beacon Wind is open to monitoring that explores other approaches to detect and quantify change, where further monitoring is appropriate, for example behavioral responses. Beacon Wind will work with the regulatory agencies, E-TWG/F-TWG, and relevant stakeholders to identify research and monitoring needs and agree on methodologies. Ideally, specific questions and focal taxa shall be chosen for the Project(s) either based on site-specific risk assessment(s), or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species. Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis. However, for some biological monitoring, this level of robustness to adequately detect change as a direct result of an offshore wind farm is not always possible as many outside factors can influence these variations with much greater significance than the factors that can be attributed to causes from offshore wind energy developments (e.g., seawater temperature, nutrient levels, etc.).

15.3.3. Post-Construction

Detecting change in biological resources as a direct result of an offshore wind development can be challenging, as the resource(s) may be subject to natural fluctuations in abundance and spatial and temporal distribution due to outside factors, for example oceanographic conditions. As such, any proposals for monitoring should be statistically robust, and technical experts should conduct statistical power analyses up front in the planning process before implementing future studies. Beacon Wind is committed to exploring appropriate monitoring protocols, for example monitoring of potential behavioral responses or changes in spatial and temporal distribution of biological resources as a direct result of the offshore wind energy development.

Monitoring changes in pre- and post-construction of environmental resources due to the presence of an offshore wind energy development can be challenging. Beacon Wind will collaborate with F-TWG and E-TWG and seek input from stakeholders on monitoring requirements and methods and is willing to explore collaborative research and monitoring initiatives, through mechanisms such as the RWSC or others.

15.4. 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 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 in the proposal review process.

Beacon 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. Beacon Wind is a member of the Steering Committee of the RWSC that is envisioned to provide support for regional science collaboration focused on studying the potential impacts from offshore wind development on sensitive environmental receptors. Beacon Wind subject matter experts also participate on various subcommittees including the marine mammal, sea turtle, habitat and ecosystem, and bird and bat subcommittees. Additionally, Beacon Wind and its affiliates are on the board of ROSA and active member of the Advisory Council.

Beacon Wind will make an effort to meet with any interested parties when contacted to discuss prospective research. Beacon 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, Beacon Wind will restrict confidential, propriety, and commercially sensitive data (as noted within the EMP).

Beacon Wind and its affiliates already are collaborating with third-party researchers in support of monitoring activities and assessing impacts in the following ways :

- Beacon Wind is funding a study with the Anderson Cabot Center for Ocean Life at the New England Aquarium to establish monitoring systems to assess the impacts of offshore wind development on highly migratory species (HMS; sharks, tunas, billfishes) and the large recreational fishery that targets them.
- 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 6 months.
- Empire Wind is collaborating with the Wildlife Conservation Society (WCS) and Woods Hole Oceanographic Institute (WHOI) on real-time large whale detection and notification buoys in a minimum 3-year monitoring program. This includes an exhibit will be set up at the New York Aquarium concerning the program.
- Beacon Wind metocean facilities (e.g., current meters and wave buoys) are currently deployed; oceanographic data, not deemed proprietary will be made available upon request;

- Protected Species Observer (PSO) data is currently being shared in support of a research study being conducted by NMFS and the New England Aquarium to evaluate how PSO data can be utilized to support regional species stock assessments.
- 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 and 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.
- Beacon Wind and its affiliates are committed to continue participating in the development of the Regional Wildlife Science Collaborative as it matures, where Jennifer Dupont (Strategic Environmental Affairs Manager) sits on the Steering Committee. Empire Wind contributes $20,000/year in membership fees to RWSC
- Equinor Wind is a former member of the RODA Task Force.
- Equinor holds a board position on the Atlantic Marine Conservation Society board.
- [redacted]

Beacon 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. These monitoring efforts may be committed via regional monitoring organizations (e.g., ROSA, RWSC, or similar) or independently by Beacon Wind.

15.5. 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 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, dynamic adjustments following the detection of a marine mammal); 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).

[redacted]

The project's assessments, design, and mitigations are fabricated in a manner meant to appropriately address the needs and requirements of all of the species known to occur within the Project Area without having to prioritize some over others. [redacted] Baseline data associated with marine mammals and sea turtles are provided within this section. The following is a high-level summary of Beacon Wind's present knowledge.

15.5.1. Marine Mammals

There are 38 marine mammals (cetaceans and pinnipeds) found in the Northwest Atlantic OCS region waters with documented ranges that include the Project Area. All 38 marine mammals are protected by the MMPA and five are additionally federally listed as Endangered under the ESA. Of those 38 species, there are 20 considered common (known to be present either year-round or seasonally in the Project Area). Across the Project Area, there are five whale species listed as endangered under the ESA that may occur or are expected or likely to occur within or transiting near the Lease Areas or export cable corridors. These include the fin whale, sei whale, blue whale, north Atlantic right whale, and the sperm whale. There is no Critical Habitat for any marine mammal species in the Project Areas.

Of the five Endangered species, three are considered common in the Project Area (NARW, Fin, and Sei), one is rare (blue) and one is uncommon (sperm). Because these species may occur and are federally endangered, a Biological Assessment will be prepared during the NEPA process in accordance with Section 7 of the ESA to address these specific species. For a full list of marine mammals which are common in the marine waters of the Atlantic OCS (including the Project Area) please see the EMP for further detail.

15.5.2. Sea Turtles

There are five species of sea turtles that have been documented in or within the Northwest Atlantic OCS region waters which includes waters of the Project Area. These species include Atlantic (Kemp's) ridley (Lepidochelys kempii), loggerhead (Caretta caretta), followed by green (Chelonia mydas), leatherback (Dermochelys coriacea), and the Atlantic hawksbill (Eretmochelys imbricate). The hawksbill is considered unlikely to occur and if seen would be as incidental transients. There is no Critical Habitat for sea turtles in the Project Area.

In the Beacon Wind Project Area waters, the four sea turtle species are found seasonally. Sea turtles are found in higher densities in the Project Area during summer and fall when the water is warmest but may be found year-round. Winter occurrences would be expected to be rare and individuals found would likely be cold-stunned, which may result in individual resting or stranding on beaches. Sea turtles only come on land during nesting periods, but there are no known nesting sites in the Project Area, nor is there critical habitat. Typically, the furthest north that sea turtle nesting occurs is in the southeastern U.S. as far north as North Carolina, but there are exceptions. In New York, sea turtles are known to occur throughout the nearshore waters as far north and west as the Lower Bay portion of Gowanus Bay.

With the designation of WEAs, BOEM and other relevant federal agencies were required under NEPA to conduct environmental assessments of offshore development and construction plans. To meet NEPA requirements, six surveys (campaigns) of the Massachusetts WEA and the MA/RI WEA were conducted by the NEA from 2011 through 2021 in order to collect visual and acoustic baseline data on distribution, abundance, and temporal occurrence patterns of large, pelagic

marine animals. These data and results are summarized in the COP and, combined with other sources, lead to the conclusion that the loggerhead sea turtle is the most abundant and widespread throughout the area. Leatherback sea turtles are found in higher densities nearer to coastlines. In the Study Area, Kemp's ridley and green sea turtles are more likely to be found in the waters of Long Island Sound than within the Project Area. Sea turtle species are more commonly found in the warmer summer and fall months. As water temperatures throughout coastal New England rise in the spring, sea turtles begin to migrate north from their overwintering waters further south. There is no sea turtle nesting in any of the coastal areas that the Project Area encompasses. A single Kemp's ridley sea turtle nested on the southern coast of Long Island, New York in 2018.

Proposed Measures to Minimize Impacts of Sound:

Beacon Wind has identified the potential for underwater noise impacts to marine mammals and sea turtles from geophysical survey equipment, construction, and installation. The following is a list of proposed mitigation measures for the project:

Geophysical Surveys:

- Exclusion, clearance, and monitoring zones will be maintained as necessary to help measure and mitigate potential effects on marine mammals;
- Monitoring during noise-generating activities shall be done through an integrated monitoring approach, including the use of PAM, NMFS-approved PSOs, and other proven technologies, to the extent practicable and in compliance with federal regulation;
- Noise generating geophysical survey work shall not commence after dark or at other times of low visibility as appropriate, unless an alternative mitigation measure or monitoring plan that does not rely on visual observations has been determined to be effective, to the extent compatible with practicability and worker safety;
- Soft starts and shut-down procedures to minimize impacts associated with noise emitting survey equipment, where technically feasible and in accordance with associated authorizations.

General:

- Monitoring during construction and installation activities, including those done during times of reduced visibility, will be done through an integrated monitoring approach, including the use of PAM, NMFS-approved PSOs, and other proven technologies, as appropriate, to the extent practicable;
- Beacon Wind shall not commence activities that generate significant noise, including geophysical survey work and impact pile driving, during poor visibility conditions such as darkness, fog, and heavy rain, unless an alternative mitigation monitoring plan that does

not rely on visual observation has been determined to be effective, to the extent compatible with practicability and worker safety.[36]

[redacted]

Proposed Measures to Minimize Risk of Ship Strikes:

Beacon Wind has identified the potential for ship strike impacts to marine mammals and sea turtles from portfolio-associated activities. The following is a list of some of the proposed mitigations measures for the project. For a complete list, please see the EMP for further detail:

- Use of exclusion/safety zones, potentially based on real-time monitoring systems as well as NOAA and NMFS-approved PSOs and PAM.
- Beacon Wind empowers all personnel onboard a vessel to raise an alert of potential marine mammals and sea turtle risk via the Lead PSO, with the Lead PSO given full mandate for mitigation decisions.
- Beacon Wind's vessel strike avoidance measures will (and have been) consistent with: (1) NOAA NMFS guidance to avoid ship collision with marine mammals and sea turtles; (2) conditions within the lease area; (3) and any Incidental Take Authorizations issued by NOAA NMFS.
- Vessel collision avoidance mitigation measures including, but not limited to use of dedicated shipping lanes, training of crews on collision avoidance measures, compliance with speed restrictions, and compliance with minimum separation distances from certain species.
- Beacon Wind also will adopt vessel collision avoidance measures for project vessels working in or in transit to and from the Lease Areas

[36] Beacon Wind notes that while passive acoustic monitoring regularly is used as an alternative to visual observations, there is growing support and recognition that alternative visual monitoring measures, such as thermal imaging, can play a role in ensuring effective mitigation during low-visibility periods. Beacon Wind anticipates that any alternative mitigation monitoring plan would employ a range of available technologies and approaches to substitute for direct visual observations.

- Beacon Wind will adopt vessel speed restrictions associated with seasonal management areas ("SMA") and dynamic management areas ("DMA") relevant to the size of the vessels used and other vessel strike avoidance measures.

Appropriate project-related personnel onboard project vessels will be provided marine mammal sighting and reporting procedures training appropriate for each specific phase and its potential impacts to marine mammal species, as necessary. These monitoring, sighting, and reporting protocols will be outlined in any Incidental Harassment Authorization (IHA) deemed necessary for the project, in an effort to emphasize individual responsibility for marine mammal awareness and protection.

15.6. 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 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.

15.6.1. Birds

Beacon Wind has already undertaken significant efforts to understand impacts to birds. Baseline studies and impact assessment were prepared in accordance with BOEM's site characterization requirements in 30 CFR§ 585.626(3) and BOEM's Guidelines for Providing Avian Survey Information for Renewable Energy Development on the Outer Continental Shelf Pursuant to 30 CFR Part 585 (BOEM 2020). In accordance with BOEM's avian guidelines (BOEM 2020), this section relies upon data collected from multiple sources relevant to avian species in the offshore and onshore portions of the Project Area designated as the Offshore Study Area and the Onshore Study Area, respectively.

Beacon Wind contracted AECOM Technical Services, Inc. ("AECOM") to conduct an avian impact assessment for both offshore and onshore birds known to occur in the Project Area. Potential risk to avian species was assessed using a risk assessment framework to identify the potential effects associated with construction, operations, and decommissioning of the Project. A quantitative weight-of-evidence approach was used to evaluate exposure (likelihood of occurrence in the offshore area) and behavioral vulnerability to establish the potential for risk (Appendix P - Avian Impact Assessment). Avoidance, minimization, and mitigation measures for other offshore wind projects were reviewed and may be considered for the Beacon Project based on applicability and agency acceptance.

Offshore baseline surveys determine that most shorebirds breed in the northern regions or are Arctic breeders. Migration and stopover occur along the U.S. East Coast, but typically not over the deeper waters. Two shorebirds considered to be pelagic and documented in the offshore environment as migrants are the red phalarope and the red-necked phalarope. Two ESA-listed shorebird species, the piping plover and the rufa red knot, are also given consideration due to their status. Marine birds including Northern gannets, cormorants, loons, seaducks, shearwaters, petrels, fulmars, terns, and others are present in the offshore waters on a seasonal basis. The roseate tern is an ESA-listed species that was identified during marine surveys and are given consideration due to their status.

The Onshore Study Area does not provide important habitat for ESA, State-listed, or other species of conservation concern. Some birds may pass over or through the area but the species most likely to be present within the Onshore Study Area are primarily common or introduced species with tolerance or affinity for heavily disturbed areas. Common species often present in urban environments or present on construction sites include mourning dove, American robin, killdeer, and barn swallow. Introduced species which are not protected species that thrive in urban environments include rock pigeon, European starling, and house sparrow. The exception to this is the peregrine falcon, an urban-adapted raptor which may pass through the area during hunting forays or during the time period after nesting has been completed and young have fledged and dispersed (post-dispersal).

A full list of bird species potentially exposed to the offshore and onshore components of the Beacon Wind project as well as a summary of potential impacts to avian species from collision and/or displacement [redacted]

15.6.2. Bats

Bat species within the Project Area can be categorized into two major groups based on their wintering strategy: cave-hibernating bats and long-distance migratory tree bats. Long-distance migrators are at higher risk of collision with operating turbines during migration, while cave hibernating bats are at higher risk of displacement by onshore habitat alterations. Both groups of bats are nocturnal insectivores, active during March to November, and occur in forested and open land habitats. Cave-hibernating bats are non-migratory or migrate regionally between

summer breeding habitat and winter hibernacula (typically a cave) in the northeastern U.S. and are generally not observed offshore (over 3.5 mi [5.6 km] from shore). Cave hibernating bats known to occur in the northeastern U.S. include big brown bat (Eptesicus fuscus), eastern small-footed bat (Myotis leibii), Indiana bat (Myotis sodalis), little brown bat (Myotis lucifugus), northern long-eared bat (Myotis septentrionalis), and tri-colored bat (Perimyotis subflavus). The northern long-eared bat and the Indiana bat are both federally and state (New York) protected. These two species are cave-hibernating and would not be found offshore in the Lease Area where impacts may be present for long-distance migrators. Long-distance migratory tree bats known to occur in the northeastern U.S. include eastern red bat (Lasiurus borealis), hoary bat (Lasiurus cinereus), and silver-haired bat (Lasionycteris noctivagans). Rather than hibernating in the winter months, these species fly to the southern parts of the U.S. and Mexico (Cryan 2003) and have been observed offshore during fall migration and summer. Of the nine species of bats present in the northeastern U.S. region, eight species are known to potentially occur in the Study Area, and four were documented in the Lease Area that may be exposed to Project development, construction, operations, and decommissioning. Cave-hibernating (regionally migratory) bat species hibernate in caves, mines, and other structures, and feed primarily on insects in terrestrial and freshwater habitats. Bat active periods extend from April 1 to October 31, and maternity roosting periods extend from June 1 to July 31. During the summer, cave-hibernating bats roost under bark, in tree crevices, and foliage of both dead and live trees, and forage within forest, along forest edges, forest openings, and in riparian areas (Harvey et al. 2011). Within the Onshore Study Area, big brown bats are the most likely cave hibernating bat to be present due to their large population and ability to co-exist in buildings and disturbed areas (NYSDEC 2021a). In areas of suitable summer roosting habitat (i.e., forest) located in proximity to hibernacula, other species may occur. A summary of the likelihood for cave-hibernating bat species to occur along each onshore export cable route and onshore substation parcel is described below. The onshore export and interconnection cable route and onshore substation facility locations under consideration in Queens, New York are already highly developed with no contiguous forested habitat. Some species of bats, such as big brown bats, will hibernate in buildings and man-made structures; however, without surrounding foraging habitat such as forests, this is unlikely to occur. Therefore, due to the high level of development and lack of trees, the onshore export and interconnection cable route and onshore substation facility areas are unlikely to support cave-hibernating or tree-roosting bat species during any period of their lifecycle and are not discussed further. Additionally, no endangered, threatened, or special concern bat species have been documented by the New York Natural Heritage Program database within the Onshore Study Area.

Cave-hibernating bats generally exhibit lower activity offshore than long-distance migratory tree bats, with their migratory movements occurring primarily in the fall. Acoustic studies indicate that the greatest percentage of migration activity for cave-hibernating bats takes place between July and October. In addition, acoustical monitoring at Block Island, Rhode Island, identified Myotis species during the Summer and Fall of 2009 and Spring of 2010, indicating cave-hibernating bats were active in the nearshore and onshore areas; however, calls were not

identified to species. Based on these data and existing information in the literature, Myotis bats are not expected to be present in the Lease Areas, as the maximum distance Myotis bats have been detected offshore in the mid-Atlantic is 7.2 mi (11.5 km). Overall, acoustic studies indicate limited use of the offshore environment by cave-hibernating bats, and any use of the Lease Areas by this group is likely limited to fall migration. Of the cave-hibernating bats that have the potential to occur in the Offshore Study Area, only big brown bats were acoustically detected in the Lease Area during the 2021 Offshore Bat Acoustic Survey. [redacted] The combination of these data sets will provide a regional data set on bat species.

Evaluation of Risks to Birds and Bats:

In order to evaluate the baseline conditions and potential impacts to birds and bats, Beacon Wind reviewed existing data as well as collected additional data. [redacted] The assessment approach and methods were designed to supplement the substantial body of existing data and to meet BOEM's data requirements for site characterization studies to evaluate the potential effects of the proposed project. In addition to the above survey work, Beacon Wind has performed a number of desktop studies to characterize bird and bat baseline conditions. Beacon Wind's unique ability to partner data collection efforts across projects makes way for a more complete regional dataset on these species.

Beacon Wind has followed BOEM guidelines and has used the Mid-Atlantic Ocean Data Portal's data of temporal use, abundance, and species distribution by avian species or groups in the lease area. The modeling data can also be used to potentially identify species that are high risk for collision or displacement, and species that are protected by federal and/or state laws.

Steps to Minimize Risk to Birds and Bats:

Beacon Wind has identified the potential for impacts from portfolio-associated activities for birds and bats. The following is a list of some of the proposed mitigations measures for the project. For a complete list, please see of the EMP for further detail:

- To avoid and minimize attraction- and disorientation-related impacts to birds and bats, artificial lighting on projects will be reduced to the extent practicable while maintaining human safety and compliance with FAA, USCG, BOEM and other regulations;

- Monitoring will be conducted to determine if there is a need for perching-related deterrents to reduce attraction and minimize potential perching and loafing opportunities for birds;
- During construction, installation of anti-perching devices where appropriate on offshore, above-water, project-related vessels and structures to minimize introduction of perching structures to the offshore environment;
- Onshore components will be sited in previously disturbed areas, existing roadways, or otherwise unsuitable avian habitat and/or ROWs to the extent practicable;
- Temporarily disturbed areas will be revegetated with appropriate native species, as appropriate; and
- Project-related vessels will be instructed to avoid rafting seabirds to minimize disturbance during construction, operations, and maintenance.

Approach to Assess Impacts to Birds and Bats:

In addition to the monitoring philosophy discussed above in Section 15.3, Beacon Wind also believes that monitoring of highly mobile species such as birds should focus on behavioral responses as well as pre-, during, and post-construction monitoring of abundance, given that the latter may not always have robust statistical power to identify change as a direct result of the wind farm. Should further monitoring of birds be required, for example for Roseate terns, then Beacon Wind is willing to explore monitoring through novel techniques such as GPS tagging exercises, subject to approvals from the relevant regulatory agencies. Beacon Wind will continue desktop studies and stakeholder discussions for avian and bat species. During field studies, Beacon Wind will complete appropriate surveys to further characterize the project area and determine presence/absence of habitat within proposed project activities.

Lastly, Beacon Wind notes that impacts, and the need for mitigation measures, will be sufficiently examined as part of BOEM's NEPA process as part of the project's COP, through state permitting processes, and in consultation with USFWS and relevant stakeholders. Where appropriate, mitigation will be implemented to reduce impacts to as low as practicable.

15.7. Fish, Invertebrates and their Habitats

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).

The Beacon Wind Lease Area covers approximately 128,811 acres ("ac") (52,128 hectares ["ha"]) and is located approximately 20 statute miles (mi) (17 nautical miles [nm], 32 kilometers ["km"]) south of Nantucket, Massachusetts and 60 mi (52 nm, 97 km) east of Montauk, New York in water depths ranging from 118 ft to 203 ft (36m to 62 m). The proposed submarine export cable route exits the southern portion of the Lease Area, heads generally northwest through Block Island Sound, and then west-southwest through Long Island Sound. Ecologically, these geographic distinctions have little meaning because dominant species assemblages from the ecoregions are resident in or transient through the Project Area. With sea temperatures increasing, historically southern species are moving north, further blurring the ecoregion boundary (Hare et al. 2016). While field collected data specifically within the Beacon Wind Lease Area are given the greatest weight in this section, recent regional reports of conditions in the New England continental shelf are considered representative of the Project Area, as appropriate.

Harvested fishes and macroinvertebrates managed under the MSFCMA or other fisheries programs occur throughout the Project Area. Most of the managed species have designated EFH in the Project Area. Additional information on managed species and designated EFH found within the Project Area [redacted]

Results of Beacon Wind's extensive surveys of the Lease Area using multibeam echo sounder, digital imagery, grab samples, and SPI/PV were used to characterize the habitat as predominantly homogeneous consisting of silty sand with high occurrence of faunal beds and mobile

crustaceans. The geophysical and geotechnical surveys confirmed that the Lease Area is predominantly flat with low rugosity and slope (COP Appendix S Benthic Resources Characterization Reports; Appendix G Marine Site Investigation Report). Grab samples were analyzed for particle size distribution to ground-truth the sediment types observed in digital imagery. Beacon Wind's geophysical surveys validated that the geophysical characterization of the Lease Area was relatively flat, unconsolidated softbottom dominated by silt and sand, with small areas of sandy mud. No hardbottom substrates, sensitive seafloor communities, or species of concern were identified in the lease area (with species of concern being informally defined as a species that NOAA's National Marine Fisheries Service [NOAA Fisheries] has regarding status and threats, at risk of decline but insufficient information available to list the species as endangered [NOAA 2009]). The collective benthic video and SPI/PV imagery showed a relatively productive biological assemblage with numerous burrows, bioturbation, polychaete/amphipod tubes, and macrobenthos.

Benthic habitats are strongly influenced by the overlying ocean, especially the top 600 ft (200 m) of the ocean known as the photic zone, where sunlight supports photosynthetic phytoplankton. The water column is particularly important for planktonic eggs and larvae of demersal species and all life stages of planktivorous species. Oceanic currents, temperature, conductivity, pH, dissolved oxygen, and other features of the water column influence the occurrence and abundance of marine species in the Project Area. Pelagic habitats extend from the sea surface to near the seafloor; habitats vary by depth, temperature, light penetration, distance from shore, turbidity, and other physical and chemical characteristics. Dynamic water quality parameters such as dissolved oxygen, pH, and conductivity are influenced by currents, human activities onshore, climate and weather, and other processes. Water depth is a key feature that affects the horizontal and vertical distribution of fish and macroinvertebrates within pelagic habitats. Other important features, such as light penetration, temperature, and dissolved oxygen, generally co-vary with depth, although the relationships can be complex and dynamic. Water depths within the Lease Area are relatively uniform, ranging from 120 to 200 ft (37 to 61 m). The federal portion of the submarine export cable route is in water with depths that range from 65 to 200 ft (20 to 61 m). The offshore cable installation corridor in New York waters is between 0 (at the shore) and 93 ft (0 and 28 m) deep. Approximately 13 percent of the New York portion of the offshore cable installation corridor is less than 49 ft (15 m) deep. Hardbottom habitat provides an exposed and sediment-free surfaces for sessile, epifaunal benthic organisms to attach. Hardbottom habitats are typically characterized by having coarse material (>50 % gravel, cobbles, boulders in a sand matrix). Existing data for the Beacon Wind Lease Area suggested that there are no hardbottom, coarse material habitats identified. The export cable route may encounter hardbottom habitat as it transitions from offshore to nearshore landing locations, particularly crossing through the eastern portion of the Long Island Sound. Hardbottom habitats are considered heterogenous and sensitive seafloor communities by NMFS. In New England and Mid-Atlantic waters, where hardbottom habitat is identified, communities can consist of cold-water corals and other epifaunal organisms. NMFS recommends avoidance of hardbottom habitat that

may have sensitive seafloor communities, such as cold corals and if these areas cannot be avoided then impact should be minimized and mitigated.

Species at Risk:

Beacon Wind notes that managed species in the project area fall under multiple agencies including the NEFMC (18 species), MAFMC (11 species), SAFMC Coastal Migratory Pelagics (2 species) NOAA Fisheries Highly Migratory Species (15 species), and ASMFC (9 species). A complete list of these species can be found in the Beacon Wind COP. Essential Fish Habitat is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, and growth to maturity" (NOAA Fisheries 1997). Under the Magnuson-Stevens Fishery Conservation and Management Act, as amended, federal agencies are required to consult on activities that may adversely affect Essential Fish Habitat designated in Fishery Management Plans developed by the regional Fishery Management Councils. Several of the species observed are managed by NMFS in collaboration with the New England Fishery Management Council, Mid-Atlantic Fishery Management Council, and/or the Atlantic States Marine Fisheries Commission. In the Project Area, NEFMC and MAFMC share authority with NOAA Fisheries to manage and conserve fisheries in federal waters. Together with NOAA Fisheries, the councils maintain FMPs for specific species or species groups to regulate commercial and recreational fishing within their geographic regions Several species and life stages of fish have EFH that overlap with the lease area. Ecologically, commercially, and recreationally important invertebrates such as ocean quahogs, Atlantic sea scallops, and Atlantic surf clam overlap with the Lease Area. EFH for each life stage of Atlantic sea scallops overlaps with 91.4 percent of the Lease Area. Adult EFH for Atlantic surf clam overlaps with 1 percent of the Lease Area. EFH for adult and juvenile ocean quahogs overlaps with 2.51 percent of the Lease Area. Therefore, these species, especially Atlantic sea scallops, may have the potential for habitat disturbance in the Lease Area. Fish species of concern where there may be potential for habitat disturbance in the Lease Area include Atlantic cod and black sea bass. EFH for each life stage of Atlantic cod overlap with some portion of the Lease Area (Adults, 98.7 percent; Juveniles, 53.4 percent; Larvae and Eggs, 50.4 percent). EFH for juvenile black sea bass overlap with 65 percent of the Lease Area. Both of these species occur where there may be the potential for habitat disturbance in the Lease Area.

Several species and life stages of fish have EFH that overlap with the New York water's portion of the submarine export cable route. Ecologically, commercially, and recreationally important invertebrates such as Quahogs and Surf clam do not have any overlap in the New York State waters of the cable corridor. Atlantic sea scallop EFH overlaps with 1.8 percent of the total project area acreage. Therefore, the New York portion of the offshore cable route is not expected to impact ecologically, recreationally, or commercially important invertebrate forage species. Fish species of concern where there may be potential for habitat disturbance include Atlantic cod and black sea bass. EFH for adult Atlantic cod overlaps with 15.7 percent of the New York portion of the offshore cable route. EFH for eggs, Juvenile, and Larvae Atlantic cod overlaps with 1.8 percent of the New York portion of the offshore cable route. EFH for juvenile black sea bass overlap with

94.2 percent of the offshore cable route in New York waters. This is a species where there may be potential for habitat disturbance in the New York waters of the Beacon Wind cable corridor.

[redacted]

Approach to Assess Impacts to Fish, Invertebrates, and Habitats:

In addition to the monitoring philosophy discussed above in Section 15.3, Beacon Wind also understands that from the outset, any research and monitoring to assess changes and impacts should be statistically robust. However, for some biological monitoring, the level of robustness to adequately detect change as a direct result of an offshore wind farm is not always possible as many outside factors can influence these variations with much greater significance than the factors that can be attributed to causes from offshore wind energy developments (e.g., seawater temperature, nutrient levels, etc.). As such, Beacon Wind is open to monitoring that explore other approaches to detect and quantify change, where further monitoring is appropriate, for example behavioral responses. Beacon Wind will work with the regulatory agencies, E-TWG and relevant stakeholders to identify research and monitoring needs and agree on methodology.

Steps to Minimize Risk to Fish, Invertebrates, and Habitats:

Beacon Wind has identified the potential for impacts from portfolio-associated activities to fish, invertebrates, and their habitats. The following is a list of some of the proposed mitigations measures for the project. For a complete list, please see the EMP for further detail:

- Beacon Wind will seek input from regulatory authorities, the fishing industry, and maritime industry to site foundations and cable routes in the least impactful manner that is practicable;
- Beacon Wind will avoid, to the extent possible, siting structures (wind turbines, offshore substations, and submarine cables) in areas of sensitive habitat, where feasible;
- [redacted]
- Beacon Wind will, to the extent possible, avoid sensitive benthic habitats;
- Beacon Wind will implement mitigation and avoidance measures to protect water quality, such as spill prevention. Specifically, Beacon Wind will use appropriate measures for vessel operation and implementing an OSRP, which includes measures to prevent, detect, and contain accidental release of oil and other hazardous materials. Project personnel will be trained in accordance with relevant laws, regulations, and Project policies, as described in the OSRP;

- Beacon Wind commits to sufficiently bury electrical cables where feasible, minimizing seabed habitat loss and reducing the effects of EMF; where deep burial is not technically feasible, rock armoring will shield the cable from the overlying water; and
- [redacted]

16. STAKEHOLDER ENGAGEMENT PLAN

Proposers must include in their Proposals a detailed Stakeholder engagement Plan that describes stakeholder engagement activities and commitments during the planning, construction, operation and decommissioning phases of the Project and the associated investments (except for SCIP Facilities, which will be included in the Supply Chain Investment Plan Stakeholder Engagement Plan). A narrative description of the Stakeholder Engagement Plan should be included in the Proposal Narrative. The Stakeholder Engagement Plan itself should be submitted as the required Stakeholder Engagement Plan attachment. Both confidential and public versions of the Stakeholder Engagement Plan must be included in the Submission. The public version of each Stakeholder Engagement 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.

Elements of the Stakeholder Engagement Plan are described in detail in Appendix F.

16.1. Stakeholder Engagement Plan Summary

The Proposer must briefly present the Proposer's philosophy on prioritizing stakeholder outreach and engagement using a range of methods in order to better understand, incorporate, and respond to the diverse perspectives, needs, and concerns of stakeholders at every stage of the development process. In keeping with NYSERDA's consideration of Fisheries and Environmental Mitigation Plans, NYSERDA will prioritize Projects in its bid evaluation process that are supported by comprehensive Stakeholder Engagement Plans.

Beacon Wind recognizes that community engagement is a critical part of succesful project development. Accordingly, Beacon Wind places a high priority on stakeholder engagement and community outreach throughout project development and operation. Beacon Wind also is committed to ensuring that the significant benefits that will result from New York's commitment to renewable energy are shared broadly, including with members of disadvantaged communities.

Beacon Wind and its affiliates already have made tremendous commitments to New York State as a result of NYSERDA's selection of the EW and BW1. Examples of the investments that already have been made as a result of prior solicitations include:

- [redacted]
- [redacted]
- [redacted]

[redacted]

This Stakeholder Engagement Plan ("SEP") expands upon these prior commitments and demonstrates Beacon Wind's commitment to robust, inclusive, and transparent engagement, and details the approach it will take to 1) identify stakeholders in the area of the proposed project 2) build public awareness and understanding of the project; 3) encourage and collect public input and incorporate that input into planning and execution of the project and 4) ensure project benefits accrue to the community.

16.1.1. Public Engagement Philosophy and Approach

Beacon Wind's approach to public engagement is consistent with our guiding philosophy for developing offshore wind projects: to be a responsible, accountable, and engaged member of the communities in which we work and operate. That means that we engage with and respond to a diverse array of stakeholders early and often, working under four foundational principles:

- **Open**: We promote transparency and embrace diversity and new perspectives.
- **Courageous**: We use foresight, identify opportunities, and manage risk.
- **Collaborative**: We engage with, respect, and earn the trust of our business partners and society.
- **Caring**: We seek zero harm to people, wildlife, or the environment, acting in a sustainable, ethical, and socially responsible manner.

Our core mission is simple, but it informs every aspect of what we do as a responsible energy developer with strong commitments to the people and communities in and around where we work: to turn natural resources into energy for people and progress for society.

In terms of stakeholder engagement, our mission is to communicate and realize all the benefits that offshore wind energy can provide, including benefit agreements for host communities, workforce training and access to supply chain for small, minority and women-owned businesses, and improved health from reduced pollution brought on by replacing fossil fuels with renewable energy sources.

In terms of accountability, our mission underpins our commitment to being an active, responsible neighbor and member of the community that listens closely to community input and adjusts our development plans accordingly.

Our commitment to a broad and ongoing stakeholder engagement process is far more than a basic requirement to develop our offshore wind farm; it is a crucial element to a successful project that meets the needs of all people and communities that are affected. In this, we align with Beacon Wind's mission, and with New York State's requirement that community members who are impacted by a public works project should have a say in the project's decision-making process. Our thorough approach to engaging all municipalities and interested groups in and

around our project upholds this ideal. We believe that thoughtful, interactive public participation that invites stakeholders and communities into the project planning and decision-making process can ensure better projects and reduce risk to the project by building buy-in and support from the ground up.

Beyond this basic principle of fairness and inclusiveness in participating in the decision-making process, this SEP seeks to achieve five specific objectives:

- Identify and provide accurate, factual, timely, and relevant information to stakeholders.
- Build and maintain trustworthy and constructive stakeholder relationships.
- Provide a range of opportunities for meaningful public engagement and stakeholder consultations through each project phase.
- Incorporate stakeholder input into project design, construction, and operations plans, wherever feasible.
- Deliver tangible and direct economic benefits equitably to local communities, with a specific focus on disadvantaged communities.

Beacon Wind advances public engagement programs designed to build strong working relationships with the communities and stakeholders in the area of our offshore wind projects. Key to effective outreach and communication is the collecting and incorporating of data related to the communities where we operate, and feedback from stakeholders in those communities.

Our team employs a systematic approach to stakeholder engagement that enables us to identify and track the full range of potentially affected stakeholders and their views. This approach ensures that Beacon Wind considers, addresses, and responds to all stakeholder inputs, and allows us to allocate resources where they can be most effective and where communities and stakeholders need them most. We are guided by the experience and relationships Beacon Wind and its affiliates have established during past successful bids in New York State, and build on that experience to expand our outreach to include additional stakeholders and inform all forms of engagement.

Stakeholder Mapping

We utilize stakeholder analysis tools both to map the overall universe of engaged participants in our project and to identify gaps in engagement to ensure robust coverage of all stakeholders. Tools used in stakeholder mapping include:

- Borealis Stakeholder Engagement Platform to understand stakeholders and structure and implement an effective engagement process.
- US Census Bureau Datasets and EJSCREEN
- New York State Opportunity Zones
- NYS Potential Environmental Justice Areas
- CLCPA Disadvantaged Communities (interim guidance)

Stakeholder mapping is a key component of a long-term approach to public engagement, and is inherently an ongoing process, as stakeholder characteristics, such as population, economy, and culture, evolve, and change over time.

Stakeholder mapping is the systematic process we employ to identify, categorize, and understand the communities, businesses, and organizations that come into contact with our project. Through mapping, we can track progress and adjust strategies to achieve the goals we have set for meaningful stakeholder engagement. Stakeholders for this project are organized and considered along three axes: interest areas/risk types (why stakeholders are interested in the project), location/focus area (where they reside or conduct business or other activities), and organization type (how individuals or groups are affiliated or organized).

Our stakeholder engagement process is thoroughly tracked, analyzed, and consistently updated, in Borealis, a tool that allows us to review the progression of stakeholders' levels of interest in the project and their level of support for our plans. Investment in this activity enables institutional knowledge across projects and phases, allows for consistency and accountability with our stakeholders, and provides essential reports that document the stakeholder journey through awareness, understanding, and engagement, providing insights our stakeholder engagement team will utilize to evolve our outreach program to fit the changing needs of stakeholders.

Project Benefits

This SEP describes a thoughtful approach to build project support, respectfully respond to community and stakeholder concerns, and develop community benefits on a collaborative basis. The SEP encourages and champions community representation, putting disadvantaged and traditionally underserved communities at the forefront of initiatives to maximize environmental benefits, spur economic development, and create jobs in New York.

Our stakeholder engagement strategy, as detailed in this SEP, will collect input and respond to community and stakeholder concerns, and build understanding of project benefits which include:

- Reduced energy burden
- Avoided health and social costs
- Added climate resiliency and avoided environmental costs
- Host community tax and economic benefit agreements
- Community focused permitting process
- Jobs and job training
- Expanded supply chain opportunity and capacity
- Equitable participation and benefits accruing to economically disadvantaged and EJ (Environmental Justice) communities

Reports on stakeholder activity and input will be shared and reviewed with engagement and technical teams, and with NYSERDA, both to update progress, affirm the commitment to

engagement, and to identify opportunities for enhanced messaging and communication throughout and beyond the development process.

16.1.2. Existing Guidance and Best Practices

The development of this SEP was informed by research to identify and incorporate best practices, the collective experience and lessons learned by the Beacon Wind engagement team, stakeholder analysis and conversations with project stakeholders.

We subscribe to the core values of the practice of public participation, as published by the International Association of Public Participation (iap2), which include:

- Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- Public participation includes the promise that the public's contribution will influence the decision.
- Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- Public participation seeks input from participants in designing how they participate.
- Public participation provides participants with the information they need to participate in a meaningful way.
- Public participation communicates to participants how their input affected the decision.

We continually review guidance documents, publications, and public engagement plans for similar large scale infrastructure projects elsewhere to collect best practices and lessons learned. Such documents include:

- NYSERDA Guiding Principles for Offshore Wind Stakeholder Engagement: https://www.nyserda.ny.gov/all-programs/offshore-wind/focus-areas/connecting-with-new-yorkers
- NYSERDA Learning from the Experts, webinar series: https://www.nyserda.ny.gov/osw-webinar-series
- International Association of Public Participation: The Journal of Deliberative Democracy (https://www.iap2.org/page/jdd)

We additionally reviewed public engagement plans for similar large scale infrastructure projects elsewhere to collect best practices and lessons learned, including resources available from the U.S. Department of Energy, U.S. Department of Environmental Protection and Federal Highway Administration, guides and procedures as defined by NYSERDA, and plans and reports issued by the California Energy Commission, and plans such as the Empire Wind Stakeholder Engagement Plan, State of Victoria Community Engagement Planning for Renewable Energy Development and others.

16.2. Stakeholder Identification and Stakeholder List

The Plan must describe the key considerations taken among different stakeholder groups. Plans should describe how each step of the stakeholder engagement process may be modified and tailored to the specific needs and accessibility of different stakeholder groups in New York. Proposers should include explanations as to why the stakeholders identified are important for overall Project success, how the Project will consider each stakeholder group when giving Project development updates, communicating education or job opportunities, or undergoing activities in local communities. Stakeholder groups in New York may include but are not limited to, indigenous nations, environmental organizations, commercial and recreational fisherman, navigational safety committees, economic and workforce development organizations, elected officials, federal and state government agencies, labor leaders and organizations, maritime industry, port owners and operators, supply chain businesses including small-medium enterprises, MWBEs and SDVOBs, tourism operators, training and research institutions, academia, coastal residents and business owners, local communities including environmental justice communities or proximate Disadvantaged Communities in accordance with the most recent relevant guidance per the Climate Action Council and Climate Justice Working Group. Stakeholder Engagement Plans must also address engagement with the U.S. steel industry.

In formulating this SEP, Beacon Wind identified potential stakeholders and assessed their unique communication and information needs to inform development of engagement methods and materials to address those needs. By creating and implementing different communication strategies for different stakeholder groups, both the distribution of information and the effectiveness of those distributed messages will be greater than relying on a “one-size-fits-all” approach to public outreach.

Equinor and bp have previously been awarded PSAs in two large New York State offshore wind solicitations, each of which benefited from the identification and engagement of stakeholders across the New York ecosystem. We come to this opportunity, therefore, with both an existing stakeholder list we will use as a foundational base to work from, and strong, successful, and established relationships with a broad range of project stakeholders.

The information gained from outreach related to our prior lease awards, and from our pre-bid outreach, has bolstered our understanding of what affected communities value and seek from this project and has forged strong relationships between our projects and key stakeholder groups in the project area. These established relationships will enable us to be responsive to public concerns and to build support through a robust, meaningful, and transparent public involvement process that creates awareness and understanding of our projects.

Specific stakeholders will be identified by information provided by members of the community, other stakeholders, guidance from local and state government contacts, prior submissions of other offshore wind solicitations, review of New York State GIS (Geographic Information Systems) records, tax records, research, and the extensive experience of our stakeholder engagement team in advancing similar projects.

As further detailed in Section 16.3.1, Beacon Wind identified the following stakeholder categories for the NY Project Area and has assigned each to a department within Beacon Wind to establish and continue relationships. An overview of the categories and assignments is provided in Figure 64 below.

Figure 64: Stakeholder Categories and Department Assignments

Category	Department
Host Communities	Commercial
Youth Groups	Stakeholder Engagement
Federal, State, and Local Governments	Stakeholder Engagement
Environmental Groups	Permitting
Non-Governmental Environmental & Special Interest Groups	Stakeholder Engagement
Environmental Justice Groups	Stakeholder Engagement
Labor Organizations	Labor Liaison/Labor Counsel
School, Civic and Community Organizations	Stakeholder Engagement
Community Organizations	Stakeholder Engagement
Affected Property Owners	Commercial and Permitting
Academic Institutions	Stakeholder Engagement
Native American Tribal Groups	Permitting/Stakeholder Engagement
Port Owners and Operators	Facilities Management
Fisheries and Marine-Based Businesses	Permitting
Media	Communications

Pre-bid outreach activity has included more than 160 meetings and public information sessions with groups in each of these categories to initiate conversations, present the project, and collect stakeholder and community input. A complete list of meetings is included in Attachment 16.B.

Beacon Wind's team of government relations, communications, and community outreach professionals lead on-the-ground stakeholder engagement, including that focused on the Beacon Wind project. Following is the organization and listing of team members with primary responsibility for stakeholder engagement and external relations, including government, community, and media. Their role, and the region they manage is provided, as appropriate, along with contact information in Figure 65 below. This list will be published on the Project website and will be reviewed to reflect organizational changes throughout the Project lifecycle.

Figure 65: Contact Details

Name	Role/Responsibilities	Contact Information
David Marks	Head of Government and Public Affairs	davim@equinor.com 203-451-7690
Tom Cunningham	Senior Public Affairs Manager	thcu@equinor.com 202-213-7346

Harrison Feuer	New York Director of Public Affairs	hfeu@equinor.com 917-495-4914
Kristin Kelleher	Stakeholder Engagement Manager, New England	krke@equinor.com 978-652-8795
Ana Fisyak	Community Engagement Manager, Queens	afis@equinor.com 917-679-9825
Susan Lienau	Community Engagement Manager, Long Island	susl@equinor.com 631-987-5265
Jennifer Edwards	Community & Environmental Investment Manager	jegi@equinor.com 832-638-5562
Alba Pena	Community Engagement Manager, New York City	albp@equinor.com 718-223-0414
Amanda Schoen	Director of Industry Relations	amsch@equinor.com 860-770-9487

16.3. Stakeholder Engagement Goals

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 and the Order Authorizing Offshore Wind Solicitation in 2020 issued on April 23, 2020 pursuant to Case No. 18-E-0071, the New York State Public Service Commission Order On Power Grid Study Recommendations issued on January 20, 2022 pursuant to Case No. 17-E-0071, and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Proposers must list their goals and desired outcomes developed through a collective understanding of shared interests for each stakeholder group identified in Section F.2. Proposers are encouraged to allow for flexibility and growth of goals over time while maintaining a clear organizational structure and approach including metrics for both process and outputs. NYSERDA strongly recommends Proposers review the Guiding Principles for Offshore Wind Stakeholder Engagement.

Engaging with community stakeholders demonstrates Beacon Wind's values and puts words into action. Effective engagement enables Beacon Wind to identify impacts and issues, and to align potential solutions with stakeholder values and inputs.

The goals and strategies outlined in this plan identify approaches to outreach that are transparent, inclusive, and easily understood by all audiences, and which will:

- Engage stakeholders and interested parties in an approach that is both inclusive and equitable, developed in alignment with Climate Act requirements.
- Encourage public involvement through the development, construction, and operation phases of the project.

- Address local interests and identify strategies to mitigate concerns raised by the public, working toward actionable solutions that contribute to long term social and economic development.
- Solicit feedback and input early and often from the public and affected agencies.
- Deliver outreach materials and project information to ensure stakeholders are well informed regarding project timelines, progress, and key decision dates, amplifying opportunities to participate in the process.
- Partner with local governments and community groups to ensure transparent and mutually beneficial project outcomes.

This section discusses the categories of stakeholders identified in this project, with an assessment of their specific information and communication needs. The section is followed by an inventory of stakeholder communication methods that will be implemented to encourage participation and collect input and feedback.

16.3.1. Stakeholder Categories

Beacon Wind is committed to ensuring the information and communication needs of stakeholders are met, and their specific goals, issues and desired outcomes are considered as the project advances through the development, construction, and operational phases of the project. In pre-bid discussions with stakeholders, and from input collected in Beacon Wind and its affiliates' previous projects in New York State, Beacon Wind has identified and begun to address preliminary goals, issues, and desired outcomes for each of the specified stakeholder categories as follows:

Host Communities

Members of the communities in which the Project is located will be engaged in a collaborative partnership to build positive relationships and ensure input and feedback is collected from affected communities, and is considered as BW advances through development, construction, operation, and decommissioning. Host communities will be engaged to identify local needs, investment opportunities, and mitigate concerns. They will be a direct party in community benefits agreements and will identify concerns related to construction and operational impacts, visual impacts, and property values, and will seek information on benefits accruing to local job and supply chain development, in addition to funding for local initiatives.

Federal, State and Local Government

Beacon Wind is committed to ensuring that elected leadership and policymakers at the local, county, state, and federal levels are informed about the progress of the project so they can respond to the questions and concerns of their constituents. Additionally, Beacon Wind will ensure that elected leadership and policymakers can contact key company representatives with any questions as they arise. Beacon Wind will brief elected officials and policymakers and seek their input to understand their constituents' concerns and interests. Initial outreach to elected

leadership and policymakers will be in the form of a brief introductory meeting and will continue through required notifications and subsequent communication via in-person briefings, virtual technology, email and/or telephone to provide updates and feedback, as well as to share informational materials elected leadership may wish to distribute to constituents.

Non-Governmental Environmental and Special Interest Groups

A variety of non-governmental organizations (NGOs) and special interest groups will be stakeholders in the Project area, each with a specific area of focus. Such groups are often able to identify specific concerns, resources, opportunities, and interests in such areas as wildlife preservation, maritime and fisheries, acceleration of clean energy transition, equitable contribution of input, and transparent processes, among others. These groups may also seek to become intervenors in the environmental review process specific to Article VII. Special interest, advocacy, and political groups involved as stakeholders in the Project will be invited to attend public information meetings and to sign up for Project email updates and newsletters.

Environmental Justice Groups

Environmental Justice groups and disadvantaged communities will require specific information related to demonstrated equity in frontline communities, economic opportunities for disadvantaged populations, and to project benefits related to health concerns, such as the historical burden of fossil fuel production. Additional efforts will be conducted to reach out to and encourage participation by potential environmental justice areas, including low-income, minority, and non-English-speaking or English as a Second Language (ESL) populations.

Labor Organizations

Labor organizations will be particularly focused on ensuring jobs and economic development related to the project are sourced locally as possible. They will be interested in workforce training programs with wraparound services for trainees, along with development and expansion of the local supply chain. Beacon Wind's work with labor organizations will include outreach and engagement to collect inputs, as well as distribution of information on project development and progress.

School, Civic and Community Organizations

The "eyes and ears" of the local area, civic, community, and business groups will play an important role in communication related to the Project and will be kept current about the Project. Members of these groups will be interested in topics including the addition of well-paying local jobs and economic development benefiting their communities. They will also be interested in preservation of local attributes, viewsheds, respect for local values, and opportunities for STEM programs for youth, along with vocational training and preparation for the workforce. In addition to scheduling meetings specific to this project, and distributing project

progress via email updates, newsletters, and web postings, Beacon Wind will also attend relevant meetings held by these groups to better understand local needs and interests.

Affected Property Owners

Beacon Wind specifically addresses affected landowners, which include those holding properties crossed by the Project, as well as abutters to those properties. Such property owners may request intervenor status in applications because of their specific interests and issues of concern relative to Beacon Wind. Throughout the planning, development and construction of the NY Project, Beacon Wind will maintain and update the list of affected landowners and intervenors to ensure they receive project information and are specifically engaged to comment on the project and identify specific concerns, such as property value, viewshed impacts, safety, and traffic. Additionally, Beacon Wind is required to deposit funds with the Department of Public Service ("DPS") to provide intervenor funding for abutting project owners. Beacon Wind will communicate the availability of intervenor funding through official can and direct to property owner, channels.

Native American Tribes

Native American Tribes have specific goals and concerns related to the protection of lands and respect for tribal values, along with economic benefits related to climate protection, workforce development and supply chain expansion. Beacon Wind is committed to engaging input from Native American Tribal representatives on the concerns and needs of their members, including their specific interests and concerns about the land to be developed within the vicinity of the project. Beacon Wind has conducted initial outreach to New York Native American tribes and will continue to brief interested tribes throughout the Project, guided by Beacon Wind's Native American Tribes Communications Plan ("NATCP"), a voluntary "best management practices" plan that is not tied to a regulatory requirement; Beacon Wind will review and revise this plan on an annual basis. The tribes included in this project are: Mashantucket Pequot Tribal Nation, Mashpee Wampanoag Tribe, Wampanoag Tribe of Gay Head-Aquinnah, and Narragansett Indian Tribe.

Port Owners and Operators

Port owners and operators will have specific interests and concerns related to the project, including the ability to support increased capacity driven by the development of the project. Beacon Wind is committed to working with this essential stakeholder in providing support on transforming infrastructure to meet expanded staging and assembly needs of offshore wind. Beacon Wind will continue to meet with port owners and operators throughout project development, briefing them on project progress, and identifying collaborative initiatives to maximize the advantages of the new offshore wind industry.

Media

Media, including traditional as well as digital media, is both a stakeholder and a communications channel delivering information to the overall community, and as such, will play a key role in the Project. Media outlets in the Project area will be kept apprised with regular releases, advisories, notice of public events, periodic briefings, and will be supported by expert resources available for interview and inquiry. Media for this Project will include print, broadcast, and digital local publications, and will also extend to regional, statewide, and national media covering the offshore wind industry.

Fisheries and Marine-Based Businesses

Fisheries and marine-based businesses are among the current users of the waters traversed by the Project's submarine export cable route, and these businesses and their affiliated trade groups have important knowledge of the area as well as concerns that require ongoing attention during construction and/or operation. Beacon Wind will continue to conduct outreach to fisheries groups and businesses, invite their participation in public information meetings, and provide opportunities to sign up for email updates, newsletters, and website postings. Their interests will include such topics as preservation of access to lease areas, contracting for bathymetric surveying, and minimal disruption to fishing grounds. Communications and outreach with the commercial and recreational fishing industries will be guided by a Fisheries Mitigation Plan , which will be updated during Project development. We plan to coordinate with NYSERDA's fisheries liaison to ensure Beacon Wind is fully apprised of fisheries and marine issues.

As a result of this outreach, Beacon Wind has garnered significant support for its Project. This support is documented through letters of support from dozens of organizations in Attachment 16.C and significant press coverage, excerpted in Attachment 16.D. Additional letters of support from suppliers are provided in Attachment 11.B.

16.4. Stakeholder Engagement Activities and Partnerships

Plans must detail options for engagement activities and potential partnerships with community members, local elected officials, state and federal agencies, institutions, local businesses, and nonprofit organizations. Plans must address thoughtful engagement approaches specific to different stakeholder groups and consider appropriate communication methodology corresponding to the different stakeholder groups to maximize both general awareness and participation from those groups. Success metrics for engagement activities should be listed along with overall goals and outcomes from potential partnerships. NYSERDA expects selected Projects to notify the State of planned engagement activities and to track the methods used to ensure stakeholders receive accurate and timely notice of stakeholder engagement and Project development events. Plans must detail how accessibility factors, especially for Disadvantaged Communities, including convenience of meeting times and accessibility of locations or virtual platforms, childcare needs, language and interpretation needs, and variety of opportunities to participate and ways to provide input are to be considered. Engagement Activities and

Partnerships specific to business and workforce stakeholders should also be considered in the New York Jobs and Workforce Plan.

[redacted]

To ensure stakeholders are informed, involved, and engaged in project development, Beacon Wind has identified the following communications methods, which will be incorporated throughout project development to provide access to information, ensure opportunities to have questions answered, and to solicit and collect feedback. Additional methods may be developed and incorporated based on feedback from stakeholders.

16.4.1. Stakeholder Engagement Methods and Channels

Website

Beacon Wind will transform its current web presence at www.beaconwind.com, into a communication hub that will serve to update project progress, announce opportunities for participation and create a project repository, enabling stakeholders to easily find content. The website will continue to develop to meet the needs of stakeholders and the Project, with new content and features added to support Project phases. Content will include:

- Project information
- Project benefits and need
- Project map
- Addresses of local document repositories
- Library and links to project documents
- Outreach event schedule and key milestones
- FAQs
- E-blast and newsletter opt-in
- Advertisements for upcoming public outreach events
- Project contact information and email

Pre-Application Outreach

During the pre-bid period, Beacon Wind has proactively conducted outreach to stakeholders to build on partnerships established during Beacon Wind and its affiliates' prior New York projects, initiate new partnerships, collect input, and identify potential collaborative activities for educational partnerships, and initiatives related to workforce and supply chain development. Agendas have included overall Project introductions and information, stakeholder goals and concerns, input on best ways to communicate and engage area stakeholders, and opportunities for early-stage collaborations. The success of such outreach is documented in the letters of support that have been included in Attachment 16.C.

Meetings and Outreach Events

In addition to required public hearings, Beacon Wind will continue to host a variety of workshops, open houses, and information sessions to provide multiple opportunities to facilitate dialogue in the community, distribute project information, and solicit feedback. Such events will be focused on collecting input from the public, and ensuring ample opportunity for participants to ask questions, and share comments. Meeting materials such as comment cards and/or questionnaires/surveys will be provided to gather feedback for future consideration.

- Public meeting locations and times will be selected for accessibility and convenience, to enable the widest participation.

- Public meetings and events will be promoted via advertising, media advisories, direct mail, and social posts.
- Meeting materials will be translated as needed, and American Sign Language interpreters will be available during live meetings.
- Hybrid events, with both in-person and virtual options, will be utilized to reach stakeholders with information and participatory opportunities, regardless of their location and attendance preferences.

Public/Legal Notices and Advertisements

Legal notices will be prepared and published in compliance with all applicable regulations. Meetings and events will be advertised in a variety of ways, including the following:

- Display advertisements, including legal notices, will be placed in the local newspaper of record, as well as in daily and weekly newspapers to promote attendance at public meetings, workshops, and other outreach events.
- Notifications of meetings will include direct first-class mail communication to property owners whose properties abut the project area.
- Eblasts will be developed and used to announce meetings and opportunities to participate in the process.

Document Repositories

In addition to providing access to official project documents on the project website, and via link to official sites, Beacon Wind will provide copies of milestone documents at repositories in the project area.

Media

A wide range of media channels, including print, broadcast, cable, and social media outlets serving the project area will be kept apprised with regular press releases related to project milestones, briefings as needed, and distribution of fact sheets and other materials. The media will be invited to attend public information meetings, and sign up for email updates and newsletters, and view website postings. Media channels include, but are not limited to:

- Newsday
- Suffolk Times
- Queens Courier
- Queens Chronicle
- Village Beacon Record
- South Shore Press
- The Tide of Moriches and Manorville
- Long Island Advance
- Long Island Herald / South Shore Record

- Neighbor Newspaper Holtsville
- LI Business News Ronkonkoma

A wider list of statewide media will also be kept apprised on project progress.

Social Media

Beacon Wind will utilize social media platforms to share information and collect input from stakeholders. Social media posts, photos, and videos will feature information on project status and milestones on, for example:

- Facebook Page
- LinkedIn Showcase Page
- NextDoor Profile
- Project Twitter (@BeaconWindNY)

Outreach Materials

Project brochures, flyers, and fact sheets will be developed to provide an overview of the Project and topics of interest. Print materials will be translated into multiple languages, written in plain English, and will be available on the project website and distributed at in-person events as well as high traffic areas, such as libraries, cultural centers, and senior centers. Materials may include:

- Brochures
- FAQs
- Technical memoranda
- Project factsheets
- Project maps
- Project posters and displays
- Videos

Stakeholder Infoline and Monitored E-Mail In-Box

A toll-free local Infoline 833-901-3915 and regularly monitored e-mail in-box beaconwind@equinor.com have been established for the project to allow individuals to contact Beacon Wind for information, ask specific questions, or share concerns and comments. The number will be included on all communication materials.

- Calls placed to the Infoline will be recorded and documented and logged in Beacon Wind's stakeholder database.
- Inquiries received via the Infoline will be directed to the appropriate subject matter expert for response, and responses, along with further correspondence, will be entered in the stakeholder management system.

Newsletter

A project newsletter published online and in print, and translated as needed, will be developed and distributed periodically to communicate project progress and opportunities to participate throughout Project development.

- The newsletter will serve as a communication tool to keep municipal and other government leaders informed, engage community partners, and educate the public.
- In addition to direct distribution, the project newsletter will be featured in social media, and posted on the project website, with an opt-in to subscribe to the distribution list.

Pop-Ups and Participation at Events

Informal "pop-up" booths, display tables, or exhibits will be scheduled during existing or previously planned, local events and activities, such as farmers markets and fairs to create opportunities to bring Project information to the public, supplementing formal public information meetings and public hearings. These activities will be posted to the website and on social media.

- Project "Walkshops" (an outdoor public education event that can be used if state or local regulations prohibit indoor meetings) will be conducted along development areas for informal discussions with stakeholders.
- Displays will be developed for use in tabling at local events to bring project information to local residents.
- Intercept polls may be conducted at events to collect input and ideas from attendees.

16.4.2. Planned and Active Partnerships and Initiatives

[redacted]

[redacted]

16.5. Tracking Progress and Communications

Selected Proposers will be required to report on stakeholder engagement activities and efforts throughout Project development, construction, operation, and decommissioning. Proposers should detail how they intend to track and measure the success of the goals defined in F.3. Proposers are encouraged to include as much detail and granularity as possible on how the effectiveness of goals will be measured.

An important part of tracking should include incorporating feedback from stakeholder engagement into communications with various stakeholder groups and ensuring accessibility for a diverse set of persons. This could include various mediums for communication and engagement, marketing and awareness raising campaigns, making efforts to provide translations, holding interactive engagements at flexible times, etc. Proposers are expected to market and schedule engagements such that attendance is maximized for the stakeholder groups targeted. NYSERDA will require attendance tracking for virtual or in-person open houses, community meetings, and public information round tables.

This section discusses the stakeholder engagement tracking system Beacon Wind has implemented to inform and enhance outreach activities, understand the development of stakeholder awareness and engagement, and address the information needs of individuals, groups, and organizations in the project area.

Beacon Wind's Borealis stakeholder management system is an organized methodology that utilizes our database to enable the outreach team to monitor and keep detailed records of all stakeholder interaction. The system provides built-in features that store and analyze stakeholder communication, sentiment, and relationships over time, driving the methods and strategies we utilize to engage with existing stakeholders, build on those relationships and initiate new ones. The tracking mechanism will enable our team to enter data from individual communications, as well as from events, public hearings, and feedback contributions, tracking the progress of the stakeholder engagement effort in encouraging participation by a wide and diverse audience.

Beacon Wind's public engagement team recognizes three consistent steps in achieving public awareness and has mapped this and other OSW engagement programs to help audiences move through the three phases, regardless of when they enter a project. In our experience, successful audience engagement requires movement through a process that begins with awareness and evolves to understanding and ultimately ownership/adoption and/or advocacy of a project or idea. This public engagement plan is predicated on knowledge that stakeholders come to a project at different times and with different levels of awareness. Leveraging these distinct steps enables us to build and measure clear objectives and performance indicators, which we chart, monitor, analyze, and report in the stakeholder tracking software.

17. VISIBILITY AND VIEWSHED IMPACTS

Proposers must address a Project's visibility from shore. Identify the distance in statute miles between the nearest shoreline point and the nearest Offshore Wind Generation Facility turbines. If a Project is proposed to include turbines less than 20 statute miles from the nearest shoreline point of any state, Proposers must explain (i) how the Project will minimize adverse impacts related to visibility of turbines, including potential impacts on the local and state economy and historic and visual resources, such as publicly-accessible viewsheds, and (ii) how consideration of economic and environmental concerns contributed to the proposed distance from shore.

Additionally, all Proposals, regardless of distance from the nearest shoreline, must include a visibility study that presents visual simulations of the proposed Offshore Wind Generation Facility. Visibility studies must include a map or maps along with supporting GIS shape files that depict the nearest coastline, the boundary of the proposed site to be developed and any other reasonable reference points (e.g. coastal cities, historic sites, other wind energy areas). Simulations must be single frame, photographic images with superimposed simulations of the proposed wind turbine technology configured to represent a commercially-scaled and technically feasible scenario that is consistent with the proposed Project including operating capacity, wind turbine size, and generic spacing and configuration. Viewing instructions must be included on each simulation.

Visual simulations must represent, at a minimum, clear, partly cloudy, and overcast conditions during early morning, mid-afternoon, and late day, as well as one simulation at night with the turbines lit under clear conditions. Visual simulations must be provided from a minimum of two representative vantage points which represent the closest points to shore from any turbine within the Offshore Wind Generation Facility and, if applicable, any sensitive or historic viewpoints within 20 statute miles of the nearest turbine. The visibility study must also include analysis of the percentage of time during which different visibility conditions are expected to occur based on past meteorological data.

The s221imulations must be provided in a format suitable to be printed or electronically viewed by the public and/or the OREC Scoring Committee.

Beacon Wind recognizes the importance of ensuring that offshore wind is developed in a manner that minimizes the adverse impact on viewsheds and respects significant historical, cultural, and economic resources. With BW2 located over 20 miles from shore, the project is not expected to have any adverse visual impacts. Nevertheless, Beacon Wind is tailoring the development of the Project in a manner that minimizes visibility and the potential impact on viewshed resources. This includes:

- Utilizing project-specific turbines with uniform size rotor blades, nacelles, and towers.
- Utilizing turbines of a light color, such as white or light gray, as dictated by the USCG and BOEM requirements to minimize contrast with the sky under many conditions;
- Sympathetic maritime navigation night lighting systems for offshore and onshore structures where feasible; and

- Smart aviation lighting systems, such as an ADLS, further discussed in Section 11.5.[37]

In order to demonstrate that the Project will not have a significant impact on viewshed resources, Beacon Wind is providing visual simulations from representative vantage points for BW2 alone and BW1 & BW2 together under a variety of conditions as required by the RFP. Copies of the visual simulations are provided as Attachment 17.A.

Beacon Wind emphasizes that all simulations should be printed 11" x 17" in full size with no scaling and viewed from an arm's length away (approximately 24 inches) in order to simulate actual viewing conditions. Viewing the attached simulations in a manner that does not follow the directions set out above, such as on a computer screen, will provide an unrealistic and exaggerated view of the visual impact of these projects.

17.1. Overview of Visual Simulation

As described further below, in order to assess the visual impact of the Project, Beacon Wind conducted visual simulations from key viewpoints under a range of conditions and at different times throughout the day. As demonstrated in the attached simulations, the Project will not adversely affect viewshed resources. Notably, BW2 is a significant distance from shore. The nearest turbine for BW2 is over 60 miles from the eastern tip of Long Island and over 30 miles from Nantucket, Massachusetts. Thus, while portions of BW1 are expected to be visible from certain coastal locations at certain times, the visual impact of BW2 will be limited by distance, the curvature of the earth, and weather and meteorological factors (e.g., fog, glare from the sun).

In many cases, the visibility is limited to a very small percentage of the viewshed or not visible at all. In many coastal locations, views of the Project will be obstructed by existing vegetation and development along the shore. Where views are unobstructed onshore, they may be influenced by offshore areas within and adjacent to the lease areas that are occupied by adjacent wind farms that have already been contracted. Thus, the scenic viewshed from an onshore vantage point may not be unobstructed when construction begins for the Project.

Visibility varies widely based on conditions and the magnitude of the impacts vary based on subjective opinion. In any case, the viewshed impacts will be addressed based on feedback from stakeholders as the Project continues to develop. It is important to note that in some cases, the presence and visibility of wind turbines has resulted in economic benefits, for example where people visit the coastline to see these features offshore, including offshore sightseeing trips.

[37] Federal Aviation Administration and USCG lights on the wind turbines will contribute to their visual effect, especially during nighttime or poor visibility conditions. These warning lights are a required safety measure; therefore, they cannot be reduced in number or eliminated. However, lighting-related impacts can be minimized by optimizing wind turbine lighting to the minimum time duration allowable by the FAA and USCG.

Visual simulations may not adequately reflect the influences on a viewer's ability to see at a distance or under different lighting conditions, and therefore the "noticeability" of the proposed Project may vary. For example, viewers looking in a southerly direction out towards the Project from western Long Island, under certain clear conditions, will be subject to glare from the sun. As depicted in Figure 66 below, this glare has a physical effect on the viewer which may decrease the ability to focus on objects, thereby limiting a viewer's ability to clearly see the seascape, including any turbines.

Figure 66: Sunlight Glare and Vessels at Anchor Viewing the Seascape
Southward View from Atlantic Beach, NY

In addition, the view of the Project is likely to be obstructed due to vessels transiting the length of Long Island or anchoring in the Ambrose anchorage area located south of Long Island. These factors necessarily will reduce the visibility of the Project and should be considered when evaluating the effect of the Project on viewshed resources.

The GIS files associated with each simulation are provided as Attachment 17.B.

In order to evaluate the visibility of BW2, a preliminary list of 26 viewpoints was assessed to determine which of these viewpoints would be the most appropriate for Key Observation Point ("KOP") selection and study. It was determined using GIS mapping that none of the viewpoints considered, including those on Nantucket, were within 20 statute miles from the Project's closest

turbine. As detailed in Figure 67, the closest KOP was determined to be on Nantucket at 34.6 statute miles.

Figure 67: Location of Simulations and Distance to Nearest Turbine for Beacon Wind Project

Name	Location	Distance to Nearest Turbine
Madaket Beach[38]	Nantucket, Massachusetts	34.6 miles
Cisco Beach	Nantucket, Massachusetts	35.1 miles

Therefore, Beacon Wind selected the two closest locations to the Beacon Wind turbines as KOPs for visual simulations:

- **Madaket Beach**: a natural and recreational resource located in the historic village of Madaket on the far west coast of Nantucket, MA, which represents the closest point from the nearest proposed turbine.
- **Cisco Beach**: an important natural and recreational resource located in the popular residential area of Cisco.

Figure 68 Illustrates the two viewpoints on Nantucket that were selected for temporal and climate-based simulations.

[38] Indicates a viewpoint included in BOEM's Visualization Simulations for Offshore Massachusetts and Rhode Island Wind Energy Area. 2017.

[redacted]

[redacted]

As part of its assessment of the visibility of BW2, Beacon Wind also evaluated the results of a meteorological study by BOEM, 2017[39] to identify commonly occurring weather conditions at the KOPs. This study evaluated hourly meteorological surface data collected at the National Weather Service Tom Nevers Field, Nantucket measurement site for a 10-year period (January 1, 2003, – December 31, 2012). Meteorological conditions were categorized based upon National Climatic Data Center criteria as follows:

- Clear = having an unlimited cloud ceiling height (clouds can cover up to 50% of the sky).

[39] Visualization Simulations for Offshore Massachusetts and Rhode Island Wind Energy Area Meteorological Report. OCS Study BOEM 2017-037

- Cloudy = broken or overcast sky cover, greater than 50% of the sky.
- Rainy = any "trace" or measurable precipitation (rain, snow, sleet, etc.) amount.
- Foggy and hazy conditions are defined by National Climatic Data Center weather codes that define the type and intensity of different weather conditions.

Day or daylight hours were defined as the time between sunrise and sunset, as determined via the EPA's PCRAMMET model. Seasons are defined as:

- Winter = December 22–March 21;
- Spring = March 22–June 21;
- Summer = June 22–September 21; and
- Autumn = September 22–December 21.

Figure 69 Provides an overview of the frequency of occurrence for five meteorological conditions during daylight hours, indicating that annually, clear conditions were prevalent.

Figure 69: Frequency of Meteorological Conditions – Nantucket, MA

Condition	Occurring 50 Percent (%) or More of a Day				
	Annually	Winter	Spring	Summer	Autumn
Clear	193	48	46	52	47
Cloudy	81	19	22	17	23
Foggy	70	16	18	21	15
Rainy	20	7	5	2	6
Hazy	2	0	1	1	0

Specifically, the Nantucket sky was characterized as clear for at least 51% of daylight hours. This condition coincides with a significant population increase during summer months due to tourism and occupation of seasonal, secondary homes. Cloud cover occurs 19% of daylight hours in a given year making this the second most frequent meteorological condition on island. Clear sky conditions are most prominent during the summer months (53% of any summer day, on an annual basis). Cloud cover is most prominent during the fall (23% of any fall day, on an annual basis). Fog occurs principally during summer months (26% of any summer day, on an annual basis). Figure 70 [redacted] Provides and an overview of the distribution of each condition per day over a year.

Figure 70: Distribution of Meteorological Conditions – Nantucket, MA

Condition	Percent (%) Per Day - 1 year				
	Annually	Winter	Spring	Summer	Autumn
Clear	51	52	48	53	51
Foggy	22	18	24	26	17
Cloudy	19	21	20	14	23
Rainy	6	8	6	4	8
Hazy	2	1	2	3	1

As depicted in Figure 71 below, the predominant meteorological conditions on Nantucket are clear skies, followed by cloudy and foggy conditions. Foggy, hazy, and rainy conditions would likely reduce visibility of the Project from Nantucket on average to 10 miles or less. In light of the fact that the nearest turbine will be over 20 miles from the nearest point on Nantucket, meteorological conditions of foggy, hazy, and rainy will likely render the Project imperceptible from viewers at the closest points on Nantucket.

Figure 71: Average Daylight Visibility in Miles – Nantucket, MA

Condition	Average Daylight Visibility in Miles				
	Annually	Winter	Spring	Summer	Autumn
Clear	20	24	21	16	21
Cloudy	14	17	13	9	16
Rainy	10	9	10	9	10
Hazy	6	6	6	5	6
Foggy	3	3	2	3	3

The attached visual simulations do not take into account various factors that are likely to reduce the visibility of the project, including the angle of the sun, sea spray, and ambient light sources. As a result, the visual simulations can be viewed as providing a conservative assessment of the visibility of BW2 from the KOPs.

17.2. Visibility and Viewshed Impact Study

[redacted]

18. DISADVANTAGED COMMUNITY IMPACTS

All Proposers are required to fully detail the benefits and burdens associated with the impacts of the Project's development on any hosting and/or proximate Disadvantaged Communities, as identified through engagement with Disadvantaged Communities, and in accordance with the most recent relevant guidance per the Climate Action Council and Climate Justice Working Group. Benefits of project development may include establishment of education and training opportunities for members of Disadvantaged Communities, the hiring of residents from Disadvantaged Communities, or other investments identified as priorities for the community through documented engagements.

All Proposers are expected to explore how they can design their investments to provide benefits to and reduce burdens on Disadvantaged Communities in accordance with the 2020 CES Modification Order.

Commitments to Disadvantaged Communities must be described explicitly and will be incorporated in Section 6.05 of the Agreement. Proposers are encouraged to reference Appendix C.3, which describes categories of benefits to Disadvantaged Communities.

Beacon Wind and its affiliates are focused on ensuring that the development of the BW2 project supports the growth and development of Disadvantaged Communities across New York State and a positive impact on the day-to-day lives of members of these communities. For that reason, Beacon Wind has tailored the development strategy of BW2 and its stakeholder engagement strategy to achieve two interrelated goals: (1) creating new economic opportunities in Disadvantaged Communities; and (2) ensuring that members of Disadvantaged Communities have the capabilities and support necessary to seize these opportunities. The selection of BW2 through this solicitation will represent a significant step forward towards achieving these both of these objectives.

18.1. Supporting Economic Opportunities Within Disadvantaged Communities

[redacted]

[redacted]

[redacted]

18.2. Investing in The Future: Building Capability in Disadvantaged Communities

Through its experience engaging with, and listening to, stakeholders through the development of EW1, EW2, and BW1, Beacon Wind has come to understand that Disadvantaged Community members and groups serving these communities are in the best position to

Understand the needs of their communities and, more importantly, implement the initiatives necessary to achieve the desired goals. For this reason, as described in the Jobs and Workforce Plan being submitted with this bid, [redacted]

19. NEW YORK ECONOMIC BENEFITS

The proposal narrative should include a high-level summary of the Economic Benefits Plan for each Proposal included in the Submission, each Supply Chain Investment Plan included in the Submission, and the New York Jobs and Workforce Plan.

Beacon Wind appreciates the opportunity to work with NYSERDA to achieve the vision of turning New York into a center of the offshore wind supply chain by supporting the growth of world-class facilities capable of supporting the rapidly growing offshore wind sector. The significant investments that NYSERDA and New York State have made through the first two OREC solicitations already have positioned New York as an offshore wind leader. Each of the proposals being submitted with this bid (except the Standalone Proposal) proposes to leverage New York State funding to bring critical aspects of the offshore wind supply chain to New York State [redacted]

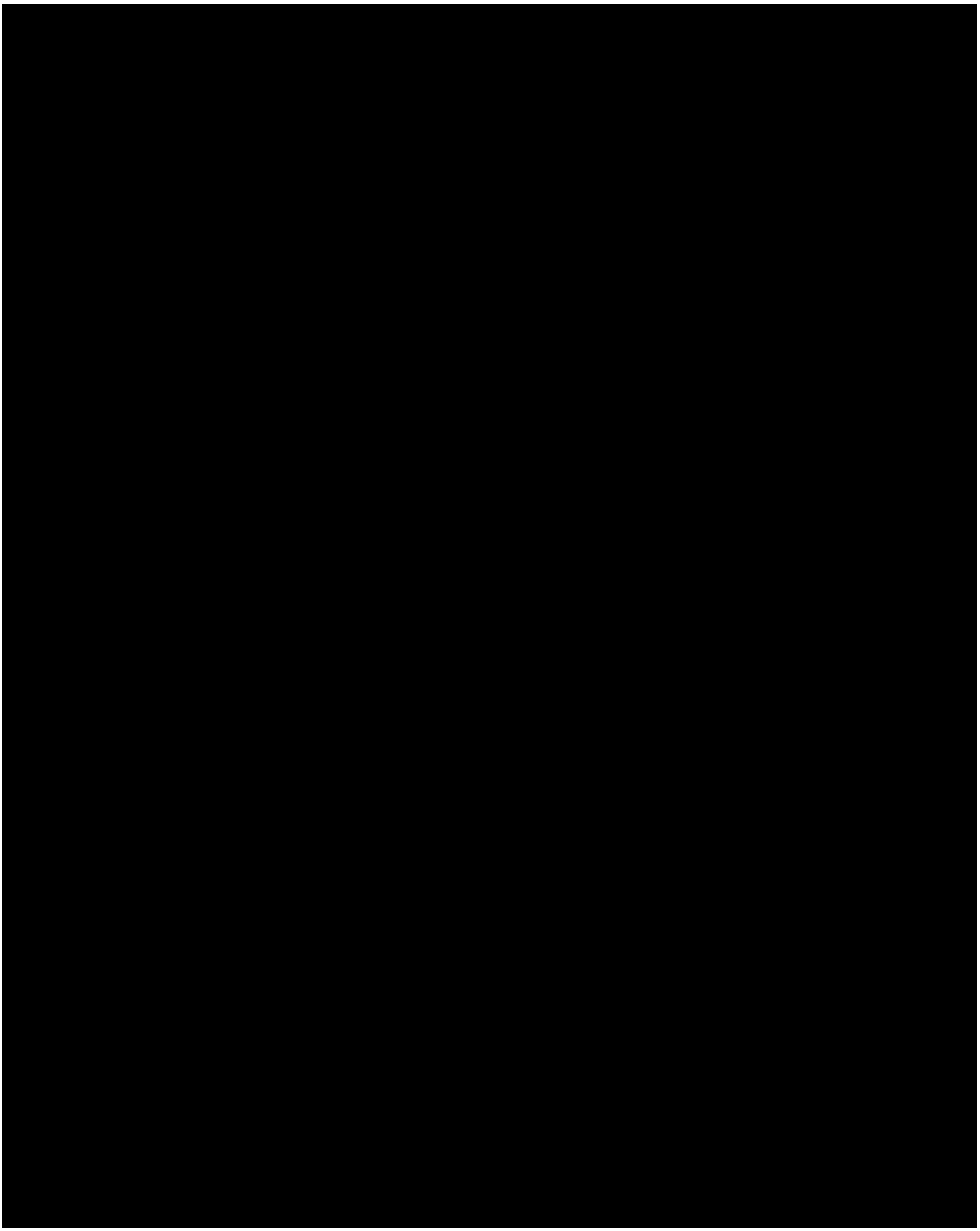
[redacted]

[redacted]

[redacted]

As described in the Jobs and Workforce Plan, if selected through this solicitation, Beacon Wind wil[redacted]

[redacted]



20. ENERGY STORAGE

For Proposals that include Energy Storage, the Proposer must provide a complete description and overview of the Energy Storage, describing the area included in and surrounding the Energy Storage site, local zoning, other applicable ordinances and municipal laws, the existing land use (e.g., woodlands, brownfield, agriculture, other) and setting (e.g., rural, urban, suburban, other) and what the Energy Storage site has been used for in the recent past. Provide a map indicating the proposed location of the Energy Storage. Describe how the Proposer or Energy Storage developer has or will have obtained site control for the proposed Energy Storage location.

20.1. Background and Experience

Equinor Renewables US, an affiliate of Beacon Wind, is the sole owner of East Point Energy ("East Point"), a battery storage developer, owner, and operator. East Point has a pipeline of more than 4 GW of strategically-sited battery storage projects in its pipeline in the United States. Equinor also has a 45% ownership stake in Noriker Power Limited ("Noriker"), a leading UK-based battery storage developer.[43] Noriker focuses on the engineering and project development of utility scale storage and stability services. In October 2022, Equinor confirmed the construction of its first battery energy storage system, the Blandford Road Project with a 25 MW/ 50 MWh battery storage project located in Dorset in southern England. A pipeline of 1.5-2 GW is under maturation, and the FID and construction start of 1-2 further projects is expected for 2023.

Both companies have tremendous backgrounds, experience, and capabilities in battery storage systems development, with East Point fronting the energy storage development in the USA. However, East Point's pipeline of projects does not yet include sites located in the prescribed location in zones J and K contemplated by this solicitation. As a result, as part of this solicitation, Beacon Wind is offering energy storage solutions that are being developed by third-party developers. This approach provides NYSERDA with the ability to select from a collection of mature and viable projects sited in those locations that align with NYSERDA's objectives and in addition align with the integration of offshore wind resources.

20.2. Energy Storage Portfolio

[redacted]

[43] https://www.equinor.com/news/archive/20211202-invests-battery-storage-company

[redacted]

[redacted]

[redacted]

[redacted]

The seven projects without a price under the OREC adder columns in Figure 76 reflect the fact that these sites were contingently awarded by NYPA to the respective developers in January 2023. Due to the late award, there was insufficient time to undergo the proper evaluation process required for these investment decisions. It was not possible to offer the sites with a binding commitment at this point in time. Therefore, Equinor and Beacon Wind included these sites with a blank price offer. Should NYSERDA express interest in any of these seven projects, Beacon Wind intends to provide pricing after having the time to perform due diligence.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

21. REDUCING CARBON EMISSIONS AND EMBODIED CARBON

Proposals should discuss how the Project will offset emissions in further contribution toward New York State's decarbonization goals, whether through Fossil Repurposing Proposals, integration of Energy Storage in strategic grid locations that support system reliability, or otherwise. The Proposal should demonstrate a commitment to understanding the carbon footprint of the Project overall and a description of how, by design, the Project is actively seeking opportunities to reduce the amount of embodied carbon.

To begin to provide some basic accountability for embodied carbon, the Proposal must describe the efforts undertaken by the Proposer, including any tools or methodologies used, to better understand and consider carbon intensity in design, sourcing and construction, and the steps that have been taken to minimize carbon emissions, including embodied carbon, from the proposed Project. The Proposer should also propose the methodology by which such reduction activities will be considered and integrated into the Project's design as the project evolves. Finally, the Proposer should include the proposed process by which the Proposer will validate, following commissioning of the Project, a final accounting of the Project's embodied carbon, including any methodology and certifiable environmental product declarations, to promote disclosure of the Project's ultimate carbon footprint and relatedly, the Project's energy and carbon payback periods.

NYSERDA requires that Proposers describe the efforts undertaken by the Proposer to better understand and consider carbon intensity in design, sourcing and construction, and the steps that have been taken to minimize embodied carbon, from the proposed Project. Proposals must also describe the process by which the Proposer will account for embodied carbon on an ongoing basis as the Project evolves. This could include the sourcing and manufacturing of Primary Components such as platforms, turbines, cables, and substations, but should also consider associated activities such as construction, operation & maintenance, and decommissioning. This could also include opportunities to support carbon mitigation efforts in collaboration with New York State manufacturing sources.

Beacon Wind is committed to helping New York State achieve the goals set out in the CLCPA, which positions New York State as a national and global leader in the world's fight against climate change. Just as New York aims to build upon its climate leadership through the CLCPA, Beacon Wind and its affiliates are at the forefront of the energy transition. As discussed further below, both Equinor and bp have made industry-leading commitments to reduce the carbon intensity of their operations and make the investments necessary to pave the way to a more sustainable future.

21.1. Our Commitments

21.1.1. Equinor

In 2022, Equinor published an Energy Transition Plan[46] detailing the company's vision for achieving its 2050 net-zero ambition. This includes a goal of halving Equinor's GHG emissions by 2030 relative to 2015 levels, with 90% of the cuts coming from absolute reductions, and allocating more than half of Equinor's annual gross capital expenditures to renewable and low carbon solutions by 2030.

Equinor's ability to rapidly reduce its carbon emissions reflects Equinor's commitment to using innovation to pave the way to a greener future. For instance, Equinor has become a world leader in Carbon Capture and Storage ("CCS"), with over 40 CCS projects operating world-wide. Its longest standing CCS project, Sleipner West, has been capturing and permanently storing approximately 1 million tons of CO2 per year since 1996 and In Salah CCS, launched in 2004, reached its storage capacity of 3 million tons of CO2 in 2011. Going forward Equinor is the operator of the Norwegian Northern Lights project which is developing the facilities to transport and permanently store captured carbon resulting from other industrial facilities.

In addition to CCS, Equinor also is actively pursuing the development of hydrogen power solutions. For instance, Equinor is part of a joint venture that is actively exploring converting Vattenfall's Magnum gas-fired power plant located in the Netherlands to run on hydrogen, potentially reducing emissions by up to 4 million tons per year.

These initiatives are part of Equinor's commitment to being at the forefront of the energy transition. Equinor aims to grow its renewables business tenfold, become carbon neutral in its global operations by 2030, and reduce the net carbon intensity of its products by at least 50% by 2050. Equinor is already delivering on these ambitions. According to Rystad Energy, Equinor accounts for 55% of all expected investments in low carbon projects amongst energy majors and is the only energy major directing the majority of its greenfield capital expenditures to renewable projects through 2025.[47]

21.1.2. bp

bp is aiming for net zero across operations, production, and sales by 2050 or sooner. By 2030 bp is aiming for (with 2019 as the baseline year):

- A 50% reduction in operational emissions.

[46] A copy of the Energy Transition Plan is available at: https://www.equinor.com/news/20220419-presents-first-energy-transition-plan-shareholders.

[47] *See* Rystad Energy, Press Release, Among Oil Majors Promising Renewable Investments, Only One Stands Out as Leader of the Pack, available at: https://www.rystadenergy.com/newsevents/news/press-releases/among-oil-majors-promising-renewable-investments-only-one-stands-out-as-leader-of-the-pack/.

- A 35-40% reduction in emissions associated with the carbon in our upstream oil and gas production; and
- A 15-20% reduction in the carbon intensity of the lifecycle emissions from the energy products we sell (covering both marketed sales and physical trades).

By the end of 2021 bp had reduced its operational emissions by 35% against a 2019 baseline making great progress against a 2030 aim. bp expects more than 40% of capital expenditure by 2025 to be in transition growth businesses – including bioenergy, convenience, EV charging, renewables, and hydrogen – and around 50% by 2030.

- bp has increased its aim for charging points to more than 100,000 by 2030. With a focus on fast and on-the-go charging – almost half bp's current network is fast or ultra-fast – and on fleets, bp is aiming to increase the energy sold across its EV charging networks 100-fold from 2019 to 2030.
- bp has quadrupled its renewables development pipeline since the end of 2019, from 6 GW to 24.5 GW. This includes its entry into offshore wind, now with a pipeline of 5.2 GW net, including its recent success in the ScotWind leasing round.
- Lightsource bp is further accelerating growth, now targeting up to 25 GW of solar by 2025.
- bp sees both renewables and hydrogen as transition growth engines. With its renewables pipeline and 4.4 GW developed to FID at end-2021, it is on track for its target of having developed 20 GW renewable power capacity by 2025 and its aim for 50 GW by 2030.
- In hydrogen, bp has built a significant portfolio of options worldwide with potential capacity of 0.7-1.3 million tons a year. These also enable additional value creation through integration with renewables and CCS.

21.2. Driving Emissions Improvements in Offshore Wind

Equinor's and bp's investments in the Beacon Wind Project and their broader offshore wind portfolio are an extension of their broader climate and energy transition commitments. Beacon Wind and its affiliates believes that Beacon Wind and the investments described herein can play a key role in helping New York achieve its carbon reduction goals by producing clean, renewable energy to power New York homes and businesses while providing significant economic benefits to the state.

Studies of the carbon emissions associated with different generation sources have consistently demonstrated that offshore wind is one of the least carbon intensive generation resources. In fact, according to the United Nation's Intergovernmental Panel on Climate Change, offshore wind is one of only seven technologies consistent with the long-term goals outlined in the Paris Climate Accords. On a life cycle basis, offshore wind (12g CO2/kWh) maintains half the carbon intensity of hydropower (24g CO2/kWh) and is over forty times cleaner than natural gas generation (490g CO2/kWh). Figure 77 below provides an overview of the carbon intensity of various generation technologies.

[redacted]

[redacted]

Beacon Wind is committed to minimizing the embodied carbon associated with the development, construction, and operation of BW2. For that reason, Beacon Wind has been actively evaluating every element of the development of its projects – from project design through operations – to identify opportunities to reduce the embodied carbon associated with BW and their broader development activities. Beacon Wind and its affiliates maintain an inventory of scope 1 and 2 emissions related to the Beacon Wind project during distinct development phases including construction, commissioning, operations and decommissioning and actively pursues opportunities, including technology evaluation and R&D funding, to help drive down these emissions.

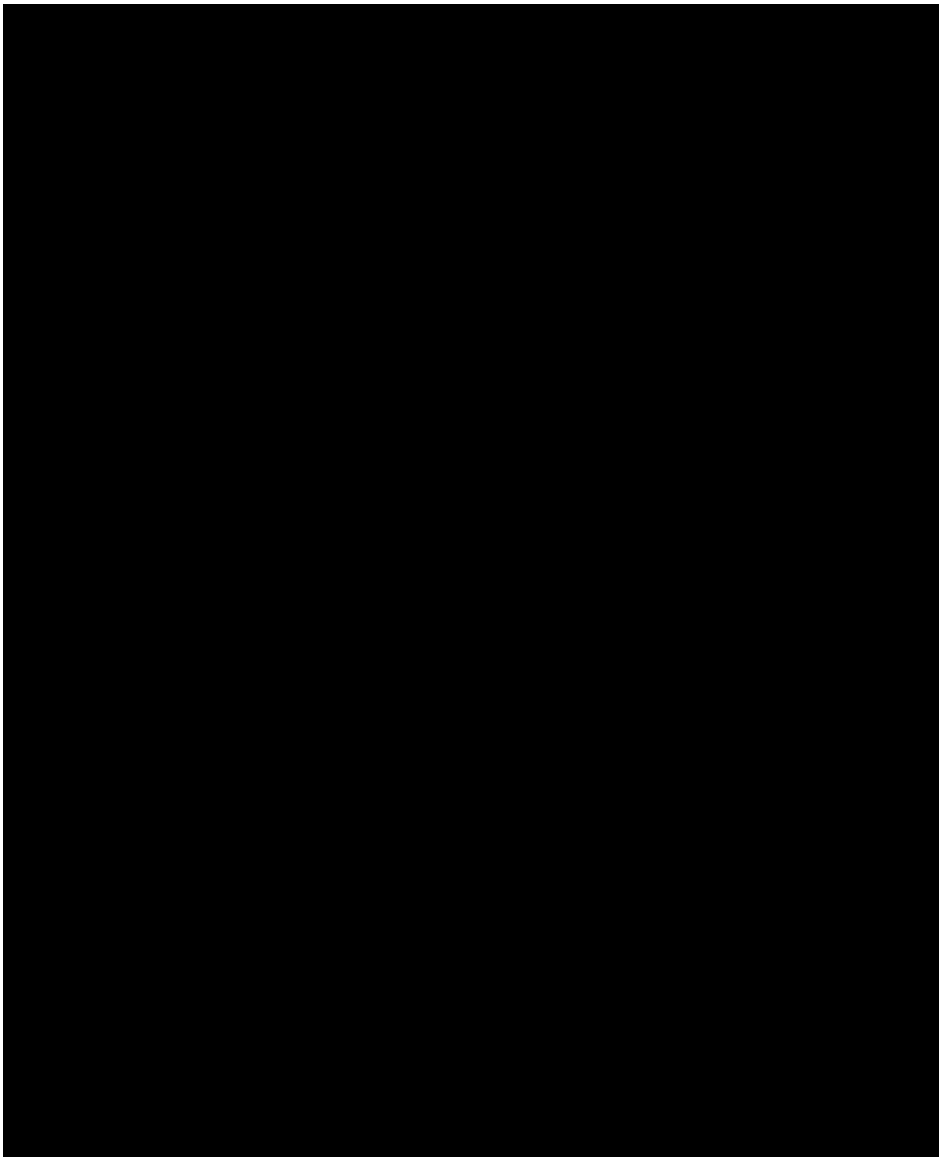
For instance, Beacon Wind is working with its suppliers to identify opportunities to reduce the carbon emissions associated with the fabrication of key project components. This includes investigating the composition of key equipment necessary for the project and leveraging innovation to reduce the emissions associated with raw materials whenever possible. This also involves sourcing project components locally to reduce the emissions associated with transportation of these components to the project site. [redacted]

Beacon Wind also is exploring numerous initiatives to reduce the carbon emissions associated with project operations and maintenance. [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]



[redacted]

Beacon Wind will also leverage its planning capability to reduce the number of vessel trips during the Project's lifetime, including optimizing sailing routes, sailing speed, engine utilization, and personnel occupancy to maximize output while minimizing emissions. Similar planning initiatives implemented at other offshore wind projects owned by Beacon Wind's affiliates have yielded significant benefits. For instance, a similar strategy employed in connection with Equinor's Norwegian assets resulted in maritime emissions reductions of over 32% between 2013 and 2019, despite maintaining similar activity levels.

As further described in the economic benefits discussion in Section 19 and the associated attachments, some of the proposals include an option to procure the deployment of 1,000 EV charging stations across New York. This initiative aligns with the CLCPA and NYSERDA's broader transportation electrification efforts and environmental justice goals

With the emissions profiles of offshore wind projects varying greatly depending upon project maturity, collaboration with suppliers is vital to reducing emissions during development. In addition to the physical measures above, Beacon Wind aligns its climate priorities across the supply chain through commercial arrangements. This can manifest itself in many forms, such as contractual obligations to measure, report, and disclose emissions and to set emissions reductions targets. [redacted]

[redacted]

21.3. Promoting Transparency: Verification of Emissions

Transparency and confidence in emissions figures is key to combatting climate change globally. Beacon Wind is committed to transparency in both principal and practice. For that reason, following the commencement of the development stage, BW2 will conduct a quantitative Life Cycle Analysis ("LCA") based on ISO 14040 and 14044 of the carbon emissions embedded within the Project. The life cycle analysis will primarily aim to quantify the emission embedded within the project during the development phase, anticipate the emissions that will be incurred during the operations and retirement phases, identify opportunities to improve the environmental performance of the project, and inform decision-makers of key sensitivities to further reduce emissions in this and future projects. The LCA will be conducted by an external certified LCA provider.

In addition to the completion of the LCA, after the Project reaches commercial operation, Beacon Wind and its affiliates will conduct regular studies, using 3rd parties as appropriate, verifying the project's ongoing emissions and production. These reviews will enable the continuous improvement of emissions performance by providing impartial insights into the effectiveness of its emissions mitigation and production enhancement activities and ensure the veracity of captured data.

Through these efforts, Beacon Wind will calculate and disclose an accurate, verifiable assessment of the total emissions associated with project construction and operation as well as the estimated carbon payback period of the Project.

22. PROPOSER CERTIFICATION

Proposer must complete and submit the Proposer Certification Form in Appendix B. The Proposer Certification must be signed by an authorized officer or other duly authorized representative of Proposer.

Beacon Wind's Proposer Certification is provided under separate cover.

23. EXCEPTIONS TO AGREEMENT AND SCIP FACILITY FUNDING AGREEMENT

If Proposer is proposing any exceptions to the Agreement, included as Appendix I, the SCIP Facility Funding Agreement, included as Appendix J and/or the Capital Commitment Agreement, included as Appendix O,Proposer must provide a redlined markup of the Agreement SCIP Facility Funding Agreement and/or Capital Commitment Agreement and provide an explanation and justification for each requested change. Proposers are encouraged to submit a description of any potential proposed exceptions in written questions as further described in Section 1.6.

Note that ORECRFP22-1 is a competitive procurement. Competitive procurement rules and the Offshore Wind Orders limit NYSERDA's ability to alter the terms of the Agreement, SCIP Facility Funding Agreement and Capital Commitment Agreement. Should the Project receive an award, NYSERDA will contact the Proposer to schedule a discussion regarding the terms identified in the redlined markup of the Agreement and/or Capital Commitment Agreement. Should a selected Project include a Supply Chain Investment Plan, NYSERDA will contact the Proposer and Funding Recipients(s) to schedule a discussion regarding the terms identified in the redlined markup of the SCIP Facility Funding Agreement.

Beacon Wind's edits to the PSA and SCIP Facility Funding Agreements are provided as Attachments 23.A and 23.B, respectively.