



NYSERDA ORECRFP23-1



# Purchase of Offshore Wind Renewable Energy Credits

Submitted by Empire Offshore Wind LLC- January 25, 2024

Section 5 - Project Schedule and Status



Powering New York. Together



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## 5. PROJECT SCHEDULE AND STATUS

*Proposers must demonstrate that the Project can reasonably be permitted, developed, financed, and constructed within a commercially reasonable timeframe consistent with the proposed Project schedule. The Submission must include both Confidential and Public versions of the Project Schedule and Status. The Commercial Operation Date(s) must be clearly stated in this section and consistent across the Submission.*

*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 must submit reasonable milestones that are achievable, thereby placing the Project on an achievable milestone schedule to 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 proposed Commercial Operation Date(s). Provide a detailed Gantt chart equivalent in a Microsoft Project .mpp file or Microsoft Excel .xlsx file (the required Project Schedule attachment referenced in Section 6.2.5.1) For each Project element listed below, provide the start and end dates and include the following:*

*1. Identify the critical path. The schedule should include, at a minimum, the tasks associated with 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, procurement of engineer/procure/construct contracts, detailed engineering design, procurement of wind turbine generators, monopile, substation equipment and offshore and onshore cabling, start of construction, offshore and onshore construction, including foundation installation, turbine erection, offshore and onshore substation construction, commissioning and any other requirements that could influence the Project schedule.*

Empire Wind and its affiliates have developed a detailed and standardized approach to planning and executing offshore wind projects, which has been used to successfully complete large and complex offshore 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 for our stakeholders and partners.

The Empire Wind Project Master Schedule ("PMS") integrates the major tasks associated with the development of the Empire Wind Project ("EW1" or "Project"). Due to the maturity of the Project, with all major component contracts in place, the schedule was developed with input from manufacturers and supply chain partners and based on the experience of Empire Wind and its affiliates to ensure that the schedule is realistic and achievable given current conditions and assumptions. [REDACTED]

[REDACTED] All major component contracts are signed and all milestones are integrated into a detailed schedule, forming the foundation for the PMS, which is provided as Attachment 5.A.

The Project plan is broken down into several defined work packages, some of which will be executed concurrently. A detailed timeline and discussion of each work package can be found below.

A description of Empire Wind's financing plan for EW1 is provided in Section 6.3. [REDACTED]

### 5.1.1. Permitting

As further detailed in Section 6.2, Empire Wind has obtained many of the permits required to develop the Project and has a well-developed plan for obtaining the remaining approvals. The unrivaled maturity of the EW1 permitting process, having received its Record of Decision and Article VII approvals, significantly de-risks the PMS and Project as a whole, as these activities are an integrated part of the project schedules in order to meet the applicable regulatory requirements. Empire Wind expects to receive the remaining permits necessary to commence construction in Q2 2024.

Prior to the development of the EW1, Empire Wind conducted and continues to conduct a range of surveys and assessments to further refine its understanding of the lease area and ensure that the Project is developed in a manner that minimizes disruption to the natural environment. Section 6.2 provides a detailed overview of the completed, in progress, and planned surveys.

Attachment 5.B provides a detailed permitting schedule.

### 5.1.2. Interconnection

Empire Wind has a mature interconnection plan and executed the EW1 Large Generator Interconnection Agreement ("LGIA") on December 19, 2023. The LGIA obligates the New York Independent System Operator Inc. ("NYISO") to provide both Energy Resource Interconnection Service and Capacity Resource Interconnection Service to EW1. A copy of the LGIA is provided as Attachment 7.A. The LGIA has been filed with the Federal Energy Regulatory Commission ("FERC") in Docket No. ER24-814-000 and is currently pending approval.

Further detail concerning Empire Wind's schedule leading up to the signing of the LGIA in December 2023 can be found in Section 7.

### 5.1.3. Real Estate

Since 2017, Empire Wind has held the exclusive development rights for lease area OCS-A-0512 and associated easements. In addition, Empire Wind secured long-term leases for the turbine laydown area, operations and maintenance base, and onshore substation (and associated

landfall). Remaining activities and timelines associated with land acquisition requirements are provided in Section 4.2.

#### 5.1.4. Construction Schedule

Empire Wind has developed a detailed schedule for the engineering, procurement, fabrication, and installation of major components. A high-level overview of the construction schedule is provided as Attachment 5.C. The following sections provide a more granular breakdown of the timing of the engineering, procurement, fabrication, and installation of individual components of EW1.

##### *Wind Turbine Generators*

Empire Wind awarded a preferred supplier agreement to Vestas in Q3 2021 [REDACTED] [REDACTED] As further discussed in Section 6.4.1, the selected turbine is undergoing an extensive test and verification program to ensure reliability, and final type certification of the V236 turbine was granted ahead of schedule in November 2023.

[REDACTED]

[REDACTED]

##### *Foundations*

Empire Wind awarded a contract for the detailed engineering of monopiles and transition pieces to COWI Consulting in January 2022. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*Cables*

Empire Wind awarded a Submarine Export Cables Engineering, Procurement, Construction, and Installation contract to Nexans in Q4 2022, which contemplates a phased fabrication and installation schedule for nearshore, midshore, and offshore work. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*Electrical System*

Empire Wind is in the advanced stages of design, engineering, and preparation for the electrical system for EW1. As noted above, Empire Wind executed the LGIA for EW1 on December 19, 2023.

In March 2022, Empire Wind awarded the contract for the design of the electrical system and the onshore substation to GE Grid Solutions LLC and Bond Civil & Utility Construction Inc. [REDACTED]

[REDACTED]

Contracts for the fabrication and engineering of the offshore substation topside and jacket were awarded in March 2023. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



*Marine Operations*

[REDACTED]

[REDACTED]

*South Brooklyn Marine Terminal*

[REDACTED]

Empire Wind awarded the detailed engineering contract to Jacobs in Q1 2022.

[REDACTED]

Empire Wind awarded the construction manager contract to Skanska in 1Q 2023.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### *Decommissioning*

Empire Wind is committed to responsibly developing EW1, including the eventual decommissioning of the Project in compliance with applicable regulations and the stipulations in Empire Wind's lease. As detailed further in Section 6.2.5, Empire Wind has submitted a conceptual decommissioning plan as part of the COP and Article VII EM&CP process. Prior to the end of the project lifetime, Empire Wind will assess the Project site employing best practices and analytical methods to determine the feasibility and potential risks associated with decommissioning EW1. Decommissioning activities will be detailed in a Decommissioning Plan, which is subject to an approval process that includes public comment and government agency consultation. The Decommissioning Plan will be developed based on a factor-based approach, utilizing the environmental and socioeconomic factors to determine a strategy and methodology that is appropriate at the time.

#### 5.1.5. Offshore Construction Windows

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

Empire Wind and its affiliates have vast experience conducting complex marine installation activities because of their decades of working in the offshore oil, gas, and offshore wind industry. This experience has been reflected in designing a realistic installation schedule for EW1 that accounts for the full range of factors that have the potential to impact marine operations, including environmental restrictions and regulations and expected weather conditions.



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 account for the expected weather conditions and were calculated by installation contractors using their own software and verified by Empire Wind and its affiliates using the marine operations logistics and weather down-time simulation software, SHORELINE.

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

*3. Detail the status of all critical path items, such as receipt of all necessary siting, environmental, and NYISO approvals.*

[REDACTED]

[Redacted text block]

[Redacted text line]

[Redacted text line]

[Redacted text block]

[Redacted text block]

[REDACTED]

[REDACTED]

*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.*

As detailed in Section 4.2, Empire Wind has taken substantial steps towards acquiring the property rights necessary for interconnection and the generator lead line right-of-way.

- **Federal Waters:** As a condition of the executed lease agreement for Lease Area OCS-A-0512, Empire Wind will receive easements necessary for the full enjoyment of the lease, including

easements necessary for the purpose of installing export cables associated with the Empire Wind Project. These easements will be granted upon approval of Empire Wind's COP. A detailed timeline concerning Empire Wind's COP is provided in Section 6.2.1.

- **State Waters:** For the portion of the export cables within state waters, Empire Wind will need to obtain an easement from the New York State Office of General Services ("NYSOGS"), Division of State Asset & Land Management. [REDACTED]

[REDACTED] A complete description of state permitting requirements and status is provided in Section 6.2.2.

- **Onshore Export Cables and Substation:** Empire Wind has secured the land for the EW1 export cable landfall and EW1 onshore substation via a long-term ground lease with SSBMT.
- **Onshore Interconnection Cable:** Following the execution of the LGIA, Empire Wind is working with ConEd to obtain the necessary easements within the Gowanus substation. Additionally, Empire Wind has begun discussions with property owners that may be impacted by EW1 along its interconnection cable route. The majority of the route is owned by the New York Department of Transportation. The onshore interconnection cable will be sited alongside existing utility infrastructure located along the public right-of-way (*i.e.*, roads) to minimize impacts and disturbance. Empire Wind currently anticipates securing the property rights necessary for the onshore interconnection cable route [REDACTED]

*A PDF copy of the Project Schedule file should be appended to the submitted file.*

See Attachment 5.A.

## 5.2. Project Schedule

*The Microsoft Project schedule attachment must be included in the Submission in the form of a Gantt chart in an unlocked Microsoft Project .mpp file or Microsoft Excel .xlsx file. If the Project Schedule varies among Proposals, the additional information may be provided in the same file, as long as the variances are clearly labeled for Proposal correspondence, or in separate files. Each task in the schedule should show its start and end dates, its predecessor task (tasks that need to be completed or underway before the task can begin or be completed) and its successor task (other tasks that need the task to begin or be completed). The task start and end dates should not be hard coded, but rather be determined based on the task duration and predecessor tasks status.*

See Attachment 5.K.

Section 5  
Project Schedule and Status

Attachment 5.A  
Project Master Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.B  
Permitting Schedule

REDACTED





Section 5  
Project Schedule and Status

Attachment 5.C  
Construction Schedule

REDACTED



Section 5

Project Schedule and Status

Attachment 5.D

Wind Turbine Generator Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.E  
Foundation Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.F  
Cable Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.G  
Electric System Schedule

REDACTED



## Section 5

### Project Schedule and Status

#### Attachment 5.H

#### Marine Operations Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.1  
SBMT Schedule

REDACTED



Section 5  
Project Schedule and Status

Attachment 5.J  
Critical Path Schedule

REDACTED





Section 5

Project Schedule and Status

Attachment 5.K

Project Master Schedule (Excel)

REDACTED

