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STATE OF NEW JERSEY
Board of Public Utilities
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CLEAN ENERGY

IN THE MATTER OF THE BOARD OF)
PUBLIC UTILITIES OFFSHORE WIND) ORDER
SOLICITATION FOR 1,100 MW –)
EVALUATION OF THE OFFSHORE WIND)
APPLICATIONS) DOCKET NO. QO18121289

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TABLE OF CONTENTS

I.	BACKGROUND AND PROCEDURAL HISTORY	4
	OWEDA	4
	Executive Order 8.....	5
	OREC Funding Mechanism.....	6
	OSW 1,100 MW Solicitation	7
	Rate Counsel	8
II.	EVALUATION OF APPLICATIONS.....	9
	Application Requirements.....	10
	Evaluation Criteria	10
	Threshold Conditions	11
III.	DISCUSSION.....	11
	Summary of Responding Applicants.....	12
	Atlantic Shores Offshore Wind, LLC	12
	Boardwalk Wind	12
	Ocean Wind	13
	Key Findings	13
IV.	FINDINGS	14
	Environmental Impacts.....	14
	Economic Impacts.....	15
	Strength of Guarantees for Economic Impacts	16
	Likelihood of Successful Commercial Operation.....	16
	OREC Prices and Ratepayer Impacts	17
V.	CONCLUSION	19
I.	TERMS AND CONDITIONS.....	21
	ATTACHMENT A – ANNUAL OREC PRICING SCHEDULES	26
	ATTACHMENT B – ADDITIONAL TERMS AND CONDITIONS.....	27

BY THE BOARD:

The New Jersey Board of Public Utilities ("Board" or "BPU") here by considers the responses to its solicitation for 1,100 megawatt ("MW") of offshore wind ("OSW") capacity, in furtherance of Governor Phil Murphy's Executive Order No. 8 (2018) ("Exec. Order No. 8"). Exec. Order No. 8 calls upon the Board to fully implement the Offshore Wind Economic Development Act of 2010 ("OWEDA") and to proceed with a solicitation of 1,100 MW of OSW capacity as a first step in meeting the State's goal of 3,500 MW of OSW capacity by 2030. By this Order the Board approves the Ocean Wind 1,100 MW Project proposed by Ørsted and PSEG Renewable Generation LLC.

Global climate change is among the most pressing threats facing New Jersey's economy and represents an imminent danger to the health, safety and welfare of our citizens. The effects of climate change are already being felt throughout New Jersey. From flooding to the escalation in number and severity of storms to the unrelenting increases in average yearly temperatures, citizens are faced daily with these threats. At the same time, emissions from burning fossil fuels are impacting our citizens' health with increased asthma rates and heat islands in our cities are diminishing the quality of life of our residents. The threat is real and global. Combating this climate crisis demands swift local action and focused state leadership.

Recognizing the need to act to reduce our energy usage and transition in a thoughtful way to a clean energy future, Gov. Murphy set forth an ambitious and important goal of reaching 100% clean energy by 2050. Energy systems and climate change are inextricably linked. Within his first few weeks in office, Governor Murphy signed Exec. Order No. 8, making New Jersey's leadership in OSW a centerpiece of his environmental and energy agenda. The purpose of Exec. Order No. 8 was to reinvigorate the implementation of OWEDA. Exec. Order No. 8 sets forth a bold vision for a clean energy economy on a scale large enough to attract an active and robust wind energy market supporting large-scale production, in-state supply chain, and utilizing a trained New Jersey workforce for construction, installation, interconnection, and operations and maintenance.

While the Board's decision yields enormous benefits for the State, the Board remains conscious of the potential impacts on New Jersey ratepayers. These impacts were considered throughout the evaluation process and the Board's approval of the Ocean Wind 1,100 MW project as a qualified OSW facility is fully responsive to economic imperatives because it combines a highly competitive pricing structure with maximum economic development benefits and guarantees to the citizens of New Jersey. The Board acknowledges that today's critical step in combating climate change is being taken in partnership with families and businesses across the state and takes the charge of ensuring fair, reasonable and cost-effective rates seriously.

The Ocean Wind 1,100 MW project brings an estimated 15,000 jobs to New Jersey over the life of the project and provides the best economic development benefits to the state of any of the applicants. And by setting an early, aggressive OSW goal, New Jersey is making a strong case that key parts of the OSW supply chain should be located here, for both current and future projects inside and outside the State. During the development of the 3,500 MW initial goal, the Board expects three times as many high paying clean energy jobs through construction, installation, operations and maintenance, and decommissioning of OSW turbines.

While heralding the establishment of a new industry, the Board also remains cognizant of its charge to protect New Jersey's natural resources and significant cultural and tourism economies. New Jersey enjoys one of the best geographic locations and ocean wind profiles in

the United States for the development of a robust OSW program. The work of harnessing that wind must be done through responsibly developed and sited wind farms. The Board remains committed to ensuring that natural resources, including fish, marine mammals, birds, and other wildlife, are protected throughout the development and operation of current and future wind projects. With the largest single solicitation in the United States, we have an opportunity to collect and share valuable data to inform future development and to protect natural resources including fish, marine mammals and avian life, which make up a critical part of our rich tapestry of biological diversity.

New Jersey can advance visionary policy and innovative programs while continuing to improve the quality of delivery, mitigate costs, and improve services for consumers. We must do this while ensuring energy is affordable, accessible, and reliable for all citizens of the state. Stepping boldly into a new industry, New Jersey once again leads the way on protecting the environment while growing the economy. Today's action is another step on the path to continuing New Jersey's leadership in the fight against the impacts of climate change, for the benefit of current and future residents.

I. BACKGROUND AND PROCEDURAL HISTORY

In response to Exec. Order No. 8, the Board opened an application window for 1,100 MW of OSW capacity from September 20 to December 28, 2018. Interested OSW developers were encouraged to submit an application to the Board to build an OSW facility in areas leased from the Bureau of Ocean Energy Management ("BOEM") in federal waters off the coast of New Jersey. The Board's action in this application process is primarily to consider whether or not to award State incentives to proposed OSW projects. Other federal and State authorities, including the New Jersey Department of Environmental Protection ("DEP"), among others, must separately provide relevant permits and authorization to proceed. An OREC award by the Board is contingent upon the developer obtaining all required local, State and/or federal permits and/or approvals. The Board's action here is one crucial step in facilitating the development of OSW off the coast of New Jersey.

The Board received applications from three developers for a total of fourteen bids during the application window. The Board is required by law to evaluate, deliberate and approve, conditionally approve, or deny an application within 180 days from the receipt of a completed application.¹

The Board worked diligently with the DEP, the New Jersey Division of Rate Counsel ("Rate Counsel") and the Board's independent evaluator Levitan & Associates ("Levitan" or "LAI") to reach a determination that is in the best interest of the State of New Jersey.

OWEDA

On August 19, 2010, OWEDA was signed into law, amending and supplementing the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 *et seq.* Among other things, OWEDA established OSW as a Class I Resource under the Renewable Energy Portfolio Standards

¹ See N.J.S.A. 48:3-87.1(d) ("The board shall review and approve, conditionally approve, or deny an application submitted pursuant to this section within 180 days after the date a complete application is submitted to the board.")

("RPS") and directed the Board to establish an OSW renewable energy credit ("OREC") program requiring a percentage of the State's electric load to be supplied by OSW from qualified OSW projects. A qualified OSW project is a "...wind turbine electric generation facility in the Atlantic Ocean and connected to the electric transmission system in this State, and includes the associated transmission-related interconnection facilities and equipment, and approved by the Board pursuant to section 3 of P.L. 1999, c. 23 (N.J.S.A. 48:3-51)."

OWEDA defines an OREC as representing the environmental attributes of one megawatt hour ("MWh") of electric generation from an OSW project.² For each MWh delivered to the transmission grid, an OSW project will be credited with one OREC.

OWEDA also established the application requirements for OSW projects to be considered eligible to receive ORECs. These requirements are referenced in the Board-approved *Guidelines for Application Submission for Proposed Offshore Wind Facilities* (Solicitation Guidelines) which provides further guidance on the formats, calculations and assumptions to be used in preparing an application. OWEDA also alludes to key factors the Board should consider in addition to the OREC Price, including the economic impacts of projects, environmental benefits including greenhouse gas reductions and mitigation of environmental impacts, ratepayer impacts, economic guarantees, and factors contributing to the likelihood of success of the project. These factors were distilled into six evaluation criteria, which reflect the goals of OWEDA and New Jersey's OSW policy, and are specified in the Solicitation Guidelines.

Ultimately, OWEDA mandates that all qualified OSW projects deliver a net economic and environmental benefit to the State of New Jersey. A cost-benefit analysis of the proposed project must demonstrate that this threshold is met based on both economic and environmental benefits. N.J.S.A. 48:3-87.1 (b)(1)(c)

OWEDA also made clear that no OREC shall be paid until electricity is produced by the project, and when such payment is made, it shall be on the actual electric output of the project that is delivered into the State's transmission system. N.J.S.A. 48:3-87.1 (c)(1). The OSW project must absorb any risk as ratepayers and the State shall be held harmless for any cost overruns associated with a project.

Following the passage of OWEDA, the Board adopted rules that provided an application process and evaluation framework for OSW facilities.³ The rules included establishing OSW as a Class I resource under the renewable portfolio standards; application requirements; the ability for the Board to designate the application windows; the ability for the Board to impose appropriate conditions upon any OREC grant; and ratepayer protections. The rules also detailed how the Board will review any application and ultimately approve, conditionally approve or deny an application.

Executive Order 8

On January 21, 2018, Gov Phil Murphy signed Exec. Order No. 8 which set a goal of 3,500 MW of OSW capacity by 2030 and directed the Board and other implementing State Agencies to "take all necessary action" to fully implement OWEDA. Exec. Order No. 8 set an aggressive OSW energy production goal recognizing that "portions of the OSW supply chain being located

² N.J.S.A. 48:3-51; N.J.A.C. 14:8-6.1

³ N.J.A.C. 14:8-6.1 et seq.

in New Jersey, including manufacturing, assembly and construction of the component parts of the OSW turbines, will contribute to a stronger New Jersey economy.”⁴

Exec. Order No. 8 specifically directed the Board to begin the rulemaking process to establish the OREC Funding Mechanism to provide the necessary regulations to determine how suppliers will meet their RPS obligations and how OSW developers will receive payments for ORECs.⁵ Exec. Order No. 8 directed the Board to proceed with a solicitation of 1,100 MW of OSW capacity as a first step in meeting the 3,500 MW goal and further calls upon the Board to implement OWEDA’s OREC program.

In response, the Board issued an Order on February 28, 2018⁶, directing Board staff to take specific actions to implement Exec. Order No. 8, including preparing an initial 1,100 MW solicitation of OSW and initiating a rule making proceeding for the OREC Funding Mechanism Rules.

Clean Energy Act

On May 23, 2018, Governor Murphy signed P.L. 2018 c. 17 into law (the “Clean Energy Act” or “CEA”). Amongst other things, it amended N.J.S.A. 48:3-87 to increase OWEDA’s initial 1,100 MW requirement to 3,500 MW of generation from OSW projects.

OREC Funding Mechanism

After a notice and comment period, the Board adopted new rules and amendments to N.J.A.C. 14:8-6.6, establishing the OREC funding mechanism (the “OREC Funding Mechanism Rules”). The OREC Funding Mechanism Rules set forth the method and processes by which ratepayers will fund an OSW project in accordance with all applicable laws, rules, Executive Orders, and Board Orders, and how all revenues earned from an OSW project will be refunded and delivered to ratepayers. Each Basic Generation Service supplier and Third Party Supplier (“TPS”) that sells electricity to retail customers in the State must ensure that the electricity it sells each reporting year in New Jersey includes at least the minimum percentage of OSW energy required for that energy year, as set by the Board, following the approval of a qualified OSW project.⁷ The OREC Funding Mechanism Rules describe the method by which suppliers will meet this obligation and how funds from the sale of ORECs will flow to the qualified OSW projects.

The OREC Funding Mechanism Rules also mandate that the OREC price reflect the total capital and operating costs for that OSW project, offset by any State or Federal tax or production credits and any other subsidies or grants, as approved by the Board.⁸ The OREC Funding Mechanism Rules further provide that once the Board has approved a qualified OSW project it shall be funded through an OREC as set forth in the rules and in accordance with the following principles:⁹

⁴ EXEC. ORDER NO. 8 at ¶9.

⁵ EXEC. ORDER NO. 8 at ¶6.

⁶ Docket No. QO18020151 - In the Matter of the Implementation of Executive Order No. 8 on Offshore Wind and the Initiation of a Rulemaking Proceeding on ORECs. February 28, 2018.

⁷ N.J.A.C. 14:8-6.2

⁸ N.J.A.C. 14:8-6.5(a)12.vii

⁹ N.J.A.C. 14.8-6.6 (a) Funding Mechanism

1. A Board Order that approves a qualified OSW project shall be binding and enforceable on all parties referenced therein;
2. The total annual OREC allowance for a qualified OSW project, once approved by the Board, shall not be subject to reduction or modification during the term of each OREC order unless otherwise agreed to by both parties;
3. A developer of a qualified OSW project shall be eligible to receive the project's approved OREC rates and payments for 20 years subject to the terms and conditions of the Board Order;
4. Qualified OSW projects shall only be entitled to OREC revenues for megawatt hours (MWh) actually generated over the 20-year term delineated in the Board Order, and shall have no recourse against the Board, the suppliers, the Electric Distribution Companies ("EDCs"), the OREC Administrator, or the ratepayers for any additional payments;
5. ORECs from a qualified OSW project shall have a qualification life of three years, including the year it was generated and the following two years, thus, allowing ORECs to be banked for future use; and
6. All revenues generated by an OSW project shall be returned to ratepayers.

[N.J.A.C. 14:8-6.6(a).]

OSW 1,100 MW Solicitation

On September 17, 2018, the Board issued its first OSW solicitation ("Solicitation"), opening an application window and inviting all interested parties to submit OSW applications by December 28, 2018. In its decision to issue the Solicitation, the Board found that the proposed OREC Funding Mechanism Rules would provide the necessary regulatory framework to enable developers to seek project financing, which lowers the financial risk to the developers, and thus enable a lower price for ratepayers.

Prior to the Board opening the application window, Board staff provided an opportunity for interested stakeholders to comment on the timing and some of the key parameters related to a solicitation of 1,100 MW of OSW capacity. Stakeholders were nearly unanimous in urging the Board to move forward with a solicitation of 1,100 MW in 2018 so that OSW developers would have an opportunity to qualify for the Federal Investment Tax Credit ("ITC"), which will expire on December 31, 2019. The Federal ITC provides a credit equal to 12% of project expenditures, thus saving New Jersey ratepayers significant costs.

In consideration of opening the solicitation, Board staff also researched the parameters, experiences and outcomes of OSW solicitations in other states including Massachusetts, Rhode Island, Connecticut, New York and Maryland. Staff determined that these states moved forward with successful solicitations for OSW within the past 18 months, supporting the Board's decision to do the same.

The Board also approved the use of an Offshore Wind Solicitation Website at NJOffshoreWind.com (the "Solicitation Website") and the Solicitation Guidelines previously referenced in this Order. The Solicitation Guidelines provided direction on the preparation of an OSW application, standards and assumptions to be used in calculating net benefits, the formats to be used for submittal, evaluation criteria stipulated under the rules, the solicitation schedule, and key dates.

The Solicitation Guidelines also outlined that applicants could submit bids ranging in size from 300 MW to 1,100 MW, with a required bid size of 400 MW. Applicants were instructed to include an estimate of the direct transmission and upgrade costs in their OREC price, and the Solicitation Guidelines allowed for applicants to choose to "true up" that portion of their OREC price once the final cost for transmission system upgrades was determined. The Solicitation Guidelines also provided the background and creation of standardized inputs related to the cost-benefit analysis as required under N.J.A.C. 14:8-6.5(a)(11). The goal of the inputs was to provide a common set of methods and assumptions for applicants so that evaluators could review projects on a comparable basis.

On October 10, 2018, the Board held a Technical Conference for all interested parties. Staff reviewed key details of the Solicitation, including application requirements and evaluation standards. Staff also answered questions from attendees regarding the Solicitation. Subsequently, staff created a Questions and Answers page on its website created specifically for this Solicitation. Interested parties were permitted to pose questions and staff would post the answers, available to all parties to view.

On November 26 and 27, 2018, Board staff and representatives from Rate Counsel met with each of the potential applicants to discuss all aspects of the application at least 30 days prior to the submission of the applications, as required by N.J.A.C 14:8-6.3(d).

Prior to the close of the application window, the Board established an evaluation committee (the "Evaluation Committee") to review and evaluate the applications received, and to provide recommendations to the Board.¹⁰

At the close of the application window on December 28, 2018, the Board received applications from three OSW developers, discussed in subsequent sections of this Order.

Board staff reviewed all applications, deemed them administratively complete and informed the applicant on January 28, 2019.

DEP

The Evaluation Committee and Board staff engaged with DEP throughout the Solicitation window. Applicants were directed to meet with DEP for a pre-permit meeting prior to submitting their applications; the DEP Office of Permit Coordination participated in the Bidders Technical Conference; and DEP contact information and permitting guidance documents were included on the Solicitation Website to facilitate coordination with DEP. The Evaluation Committee further requested that DEP assist in the evaluation of each applicant's permitting plan, environmental protection plan and interconnection plan in order to ensure consistency with the Solicitation requirements and relevant environmental regulations.

Rate Counsel

The Evaluation Committee and Board staff engaged Rate Counsel to solicit feedback on the ratepayer impacts associated with an OREC award(s) consistent with OWEDA and the governing rules at N.J.A.C 14:8-6. Rate Counsel provided its feedback on May 31, 2019, which

¹⁰ The Evaluation Committee was comprised of staff from the Office of Clean Energy, the Office of the Economist, and the Office of the General Counsel.

was reviewed and considered in the Board's decision.

II. EVALUATION OF APPLICATIONS

After the determination of administrative completeness the Evaluation Committee commenced the detailed review of the applications. On March 15, 2019, the Board selected LAI to assist the Evaluation Committee with the evaluation of applications in furtherance of Exec. Order No. 8.

Information Relied Upon in Review of Applications

Applications were reviewed considering the following information:

- The applications submitted at the close of the solicitation window on December 28, 2018;
- Answers to clarifying questions ("CQs") proposed to each applicant by LAI on March 29, 2019. Responses were received by all applicants on April 5, 2019 as requested. Applicants were notified that their responses would become part of the record and that the Board would rely on them in its further review of the applications;
- Answers to a second round of CQs proposed to each applicant by LAI on April 30, 2019. Responses were received by all applicants on May 3, 2019 as requested. Applicants were notified that their responses would become part of the record and that the Board would rely on them in their further review of the applications;
- Statements made on the record by each applicant at an interview held on May 9, 2019. Each applicant was interviewed separately by Board staff, LAI, and representatives of DEP to review their respective applications and ask any final questions prepared by LAI in consultation with Board staff and DEP. The interviews were documented by a court reporter and applicants were notified that their responses would become part of the record and the Board would rely on them in their further review of the applications;
- A Best and Final Offer ("BAFO") requested from each applicant at their May 9, 2019 interview. BAFOs were received on May 13, 2019. Applicants were notified that their BAFO would become part of the record and the Board would rely on it in their further review of the applications; and
- Information that the applicant considered supplemental to its responses during the interview, which was requested at the May 9, 2019 interview. Supplemental information was submitted by each applicant on May 13, 2019 as requested. Applicants were notified that their supplemental information would become part of the record and the Board would rely on it in its further review of the applications.

DEP reviewed the environmental protection plan and the environmental permit considerations associated with the proposed transmission segment(s) to landfill submitted by each applicant, reviewed CQs and responses, and participated in the applicant interviews. DEP submitted a report to Board staff, *NJDEP Review of Environmental Plans and Interconnection Plans, Final Report*, dated May 17, 2019. Board staff and LAI fully reviewed the DEP report and relied upon information in the report to inform its own opinions and recommendations to the Board.

LAI reviewed the above information and performed quantitative analyses of the applicants' OREC price offers and ratepayer impacts and performed a cost-benefit analysis. LAI also performed a qualitative analysis of economic and environmental impacts, economic guarantees, and the likelihood of success. Levitan summarized its analyses and findings in a final report *Evaluation of New Jersey Solicitation for ORECs for Offshore Wind Capacity* (the confidential "LAI Evaluation Report"), delivered to Board staff on May 21, 2019. Board staff fully reviewed the LAI Evaluation Report and relied upon information in the report to inform its own opinions and recommendations to the Board.

Application Requirements

OSW applicants were required to comply with the requirements under N.J.A.C. 14:8-6.5(a) in preparing and submitting their applications.

Evaluation Criteria

The Board must evaluate applications against multiple factors consistent with OWEDA and the rules at N.J.A.C 14:8-6. These factors were distilled into six evaluation criteria defined in the Solicitation Guidelines. The six criteria reflect the goals of New Jersey's OSW policy, including "to promote economic development by jump-starting an OSW supply chain in the State; to combat the threat of global climate change to New Jersey; and to achieve these first two goals at the lowest reasonable cost and lowest risk to New Jersey ratepayers."¹¹

The evaluation criteria are:

- OREC Purchase Price - This includes meeting the requirement for a fixed, pay-for-performance price as well as the implied subsidy above market prices.
- Economic impacts - This includes, among other metrics, the number of jobs created by the project, increase in wages, taxes receipts and state gross product for each MW of capacity constructed.
- Ratepayer impacts - This includes the average increase in residential and commercial customer bills. The Board will also consider the timing of any rate impacts.
- Environmental impacts - This includes the net reductions of pollutants for each MWh generated and the feasibility and strength of the applicant's plan to minimize environmental impacts created by project construction and operation.
- The strength of guarantees for economic impacts - This includes all measures proposed to assure that claimed benefits will materialize as well as plans for maximizing revenue from the sales of energy, capacity and ancillary services.
- Likelihood of successful commercial operation - This includes feasibility of project timelines, permitting plans, equipment and labor supply plans, and the current progress displayed in achieving these plans.

¹¹ OSW Guidance Document at 17.

Threshold Conditions

To approve, an OSW application pursuant to OWEDA and N.J.A.C. 14:8-6 et seq., the OSW project must meet the following threshold conditions:

- a) the filing is consistent with the New Jersey Energy Master Plan, adopted pursuant to section 12 of P.L.1977, c.146 (C.52:27F-14), in effect at the time the Board is considering the application;
- b) the cost-benefit analysis, submitted pursuant to paragraph (10) of subsection a. of this section, demonstrates positive economic and environmental net benefits to the State;
- c) the financing mechanism is based upon the actual electrical output of the project, fairly balances the risks and rewards of the project between ratepayers and shareholders, and ensures that any costs of non-performance, in either the construction or operational phase of the project, shall be borne by shareholders of the applicant; and
- d) the applicant demonstrates financial integrity and sufficient access to capital to allow for a reasonable expectation of completion of construction of the project.

[N.J.S.A. 48:3-87.1(b)(1)]

Under N.J.S.A. 48:3-87.1(b)(2)(b), the Board shall also consider any other elements it deems appropriate in conjunction with the application. Additional considerations may include, but are not limited to the reasonableness of certain project characteristics, demonstration of site control, proposed COD and schedule, and any other unique attributes that distinguish a project from another.

Based on these criteria and threshold issues the Board may approve, conditionally approve or deny an application within 180 Days of receipt of a complete application. N.J.S.A. 48:3-87.1(d)

III. DISCUSSION

The solicitation for 1,100 MW of OSW capacity resulted in responses from three developers, or applicants, and a total of fourteen bids. "Application" refers to each of the three submissions and all proposed project alternatives; "Applicant" refers to the proposing entity; "Project" refers to a distinct project size and associated infrastructure combination; and "Bid" refers to the project-specific price. The three Applicants are:

1. **Atlantic Shores Offshore Wind**, a joint venture between EDF Renewables Offshore ("EDFR") and Shell New Energies US, LLC with projects located within BOEM lease OCS-A 0499 off the coast of Atlantic City, NJ.
2. **Boardwalk Wind**, sponsored wholly by Equinor Wind US, LLC (f/k/a Statoil Wind US LLC) with projects located in BOEM lease OCS-A 0512 off the coast of Long Branch, NJ.

3. **Ocean Wind**, backed by a Memorandum of Understanding ("MOU") between Ørsted and PSEG Renewable Generation, LLC with projects located within BOEM lease OCS-A 0498 off the coast of Atlantic City, NJ.

The set of applications reflect a highly competitive response regarding OREC prices, local content, economic benefits, environmental benefits, ratepayer impacts and other factors. Levitan notes that "regarding both price and ratepayer impacts, the applicants' OREC price offers reflect robust competition among rival developers thereby providing New Jersey ratepayers with good value towards meeting carbon reduction and environmental goals, and in sponsoring development of an OSW industry in New Jersey. The price and ratepayer impacts also represent good value relative to leading commercial benchmarks, including recent OREC Awards in Maryland, Long Island, and New England." (LAI confidential evaluation report, page xiv).

Summary of Responding Applicants

Atlantic Shores Offshore Wind, LLC

Atlantic Shores Offshore Wind, LLC (Atlantic Shores) is a joint venture partnership between EDFR and Shell New Energies ("Shell"). EDFR is a subsidiary of EDF Renewables, Development, Inc., which is a subsidiary of Électricité de France S.A. ("EDF"). EDF is a global energy company, and its subsidiary, EDFR, asserts it has over 3,000 MW of OSW projects in development, plus 4,350 MW in operation in Europe, as well as more than 30 years of experience in developing and maintaining onshore wind and solar projects in North America. EDFR asserts that it develops of approximately \$1 billion of renewable energy projects annually. EDFR asserts that its asset optimization team is the largest provider of third-party O&M services in North America and services over 5,230 wind turbines, 45+ different equipment types, and almost 1,970 solar inverters, which generate over 10,000 MW.

Shell has decades of experience within the energy sector and is one of the largest power wholesalers in North America. Its experience primarily relates to oil and gas; however, it has been involved in several key wind projects, both in Europe and North America. Shell has interests in one operational OSW farm in Europe and is part of a consortium that will build and operate the Borssele 3 & 4 wind farms in Europe which is about 732 MW. Shell also recently acquired an OSW lease off the coast of Massachusetts in which it has 50% interest.

EDFR acquired the lease OCS-A 0499 off the coast of Atlantic City, NJ from US Wind, Inc. On November 16, 2018 BOEM received an application from U.S. Wind Inc. to assign 100% of commercial lease OCS-A 0499 to EDF Renewables Development, Inc. BOEM approved the assignment on December 4, 2018.

Boardwalk Wind

Boardwalk Wind is sponsored by Equinor Wind US, LLC ("Equinor"), a subsidiary of Equinor US Holdings, Inc., and Equinor ASA ("Equinor"). Formerly known as Statoil, Equinor is a Norwegian multinational energy company with operations in 36 countries. In 2018, it changed its name from Statoil to Equinor in order to reflect its development as a broad energy company that is inclusive of renewable technologies. Today, Equinor has developed, constructed, and operates three OSW projects: Sheringham Shoal (UK), Dudgeon (UK), and Hywind Scotland (UK), which total 749 MW. Furthermore, Equinor is a partner in a 385 MW project that will be completed in the

next few months, and Equinor is a partner in, and is sharing development responsibilities for Dogger Bank, a 3,600 MW project commencing construction next year.

Equinor asserts that it has extensive experience designing complex offshore structures and facilities that can operate reliably in the offshore environment. Further, Equinor maintains that it has experience in installing, maintaining and retrieving bottom fixed sub-sea installations; coordinating maritime and vessel operations globally; working with and protecting marine life; and constructing interconnection facilities for OSW projects.

Boardwalk Wind executed a lease with BOEM, OCS-A 0512, on March 15, 2017, spanning approximately 123 square miles and located approximately 20 miles east of Long Branch, New Jersey.

Ocean Wind

Ocean Wind is backed by a Memorandum of Understanding ("MOU") between Ørsted and PSEG Renewable Generation LLC ("PSEG"). The application outlines that Ørsted's role will be primarily focused on the offshore elements of the project while PSEG will coordinate with its affiliates to lead the development, permitting and construction of the onshore portions of the projects' transmission facility.

Ørsted, which was formerly known as Danish Oil and Natural Gas, or DONG Energy, changed its name in 2017 in order to reflect its significant focus on renewable technologies. Ørsted pioneered the first OSW farm in 1991, and is one of the largest developers of OSW today. Also, the company operates the only active OSW farm in North America, the 30 MW Block Island Wind Farm off the coast of Rhode Island. With over 25 years of experience, Ørsted has constructed 5,100 MW of OSW capacity. Ørsted asserts that it has extensive experience with OSW development, construction, operation, and decommissioning.

PSEG is a diversified energy company, with operations primarily in the Northeastern and Mid-Atlantic regions of the United States. PSEG asserts that it has substantial experience in running transmission infrastructure throughout New Jersey.

On April 14, 2016, BOEM received an application to assign 100% of commercial lease OCS-A 0498 off the coast of Atlantic City, NJ.

Key Findings

The Evaluation Committee determined that each application met the threshold requirements. The Evaluation Committee then turned its attention to determining which proposed project satisfied the 1,100 MW solicitation requirements in a way that was the most beneficial to the State of New Jersey.

The Evaluation Committee reviewed the projects, or combination of projects, that generally met the 1,100 MW solicitation target, and reviewed them pursuant to the six evaluation criteria. While the Evaluation Committee considered the price of each application, it also considered the other, statutorily-mandated, criteria as well. Therefore, the Evaluation Committee balanced all the criteria as a whole, not solely focusing on price.

After considering the entire record noted above, based on the six factors, the Evaluation Committee determined that four options met the threshold criteria and provided the maximum

benefit to the State. Those four options considered combinations of awards and a single award. The evaluation committee presented these four options to the Board.

These four options included:

1. The Ocean Wind 1,100 MW project;
2. The Ocean Wind 704 MW project and the Atlantic Shores 400MW project;
3. The Ocean Wind 800 MW Project and the Atlantic Shores 400 MW project; and
4. The Ocean Wind 800 MW Project and the 408 MW Project.

IV. FINDINGS

Based on the review of the record and the Evaluation Committee's evaluation, the Board **HEREBY FINDS** that the Ocean Wind 1,100 MW Project is the most beneficial to the State of New Jersey.

The Board **HEREBY FINDS** that the Ocean Wind 1,100 MW project meets each of the following threshold conditions:

- The filing is consistent with the New Jersey Energy Master plan, adopted pursuant to section 12 of P.L.1977, c.146 (C.52:27F-14), in effect at the time the Board is considering the application.
- The cost-benefit analysis demonstrates positive economic and environmental net benefits to the State.
- The financing mechanism is based upon the actual electrical output of the project, fairly balances the risks and rewards of the project between ratepayers and shareholders, and ensures that any costs of non-performance, in either the construction or operational phase of the project, will be borne by shareholders of the applicant.
- The application for the Ocean Wind 1,100 MW project demonstrates financial integrity and sufficient access to capital to allow for a reasonable expectation of completion of construction of the project.

The Board **HEREBY FINDS** that the Ocean Wind 1,100 MW project meets or exceeds all the standards for a qualified OSW facility as set for in N.J.S.A. 48:3-87.1 et seq. and N.J.A.C 14:8-6.5 et seq.

The Solicitation Guidelines require consideration of the following six evaluation criteria: 1) OREC purchase price; 2) Economic impacts; 3) Ratepayer impacts; 4) Environmental impacts; 5) Strength of guarantees for economic impacts; and 6) Likelihood of successful commercial operation. The Board has considered these criteria individually and as a whole and based on the Ocean Wind application and the entirety of the record developed during the evaluation process, the Board, **HEREBY FINDS** that the Ocean Wind 1,100 MW project is in the best interest of the State.

Environmental Impacts

All of the proposed OSW projects will help New Jersey reduce Greenhouse Gas (GHG)

emissions and other pollutants from the electric sector by displacing fossil fuel-fired generation. Emissions benefits for all proposals, on an avoided tons per MWh basis, are comparable. While there may be small differences in each project's stated capacity factor and energy profile, and different interconnection points may produce a small impact on the redispatch of fossil-fired resources, the contribution of each project's emissions benefit is not a differentiator among applicants.

Each applicant's environmental protection plan also addressed mitigation of environmental impacts during construction and operations. However, Ocean Wind's environmental protection plan was the most complete and the most advanced of the applications received. Ocean Wind completed its initial geophysical survey in 2017. It also submitted its Site Assessment Plan ("SAP") to BOEM and received approval in 2018. Ocean Wind also has approval from BOEM to conduct surveys along the preferred export cable routes. In its application, Ocean Wind provided marine mammal and sea turtle discussions, and referenced its draft Environmental Impact Assessment. After evaluation, LAI found the data current and the discussion sufficiently detailed. Ocean Wind also asserted it will work to co-exist with the fishing industry and is working towards a partnership with Rutgers University to improve collaboration with both the commercial and recreational fisheries. Some outreach has begun and fishing grounds mapped for avoidance during cable installation. Ocean Wind also conducted preliminary modeling which shows limited visibility from onshore viewpoints of its project. They have committed to a 15 mile minimum distance to shore as part of a responsible wind energy development, and asserted in their interview that they selected the wind turbine location further offshore to limit visibility and possible avian impacts. Ocean Wind maintains it will conduct a visual impact study and community outreach on the aesthetics of its project. As for navigation, Ocean Wind extensively characterizes possible navigation impacts using 2017 data, along with other commercial and recreational data sources.

In addition, Ocean Wind's developer, Ørsted, has significant experience in development, construction, operation, and decommissioning of OWS projects in Europe, UK and the United States. This distinguished the Ocean Wind application in its attention to identifying potential environmental impacts, engaging stakeholders, and mitigating these potential environmental impacts.

Economic Impacts

Each applicant offered varying degrees of local content and a New Jersey based supply chain that would result in direct and indirect economic benefits to New Jersey. Ocean Wind's economic development plans were the most detailed and offered the most economic benefits to the State. For its Project, Ocean Wind provided a MOU with EEW, a German monopile foundation manufacturer to spur location of an EEW monopile foundation fabrication facility in Paulsboro, New Jersey. Ocean Wind's 1,100 MW OSW facility is estimated to result in net economic benefits of \$1.17 billion on a present value basis. Longer term, the foundation fabrication facility may be enlarged in its scope of activities as the Atlantic coast offshore wind industry grows, which would foster further economic benefits in jobs and related supply chain manufacturing and service activities in New Jersey. Ocean Wind would also provide construction phase and operation phase jobs and make purchases in New Jersey over about 40 years by siting its construction logistics base, foundation and transition piece staging port, and its Operation and Maintenance ("O&M") port in the State.

LAI found that Ocean Wind's Economic Development Plan was strong with respect to management and labor supply. Ocean Wind also executed an MOU with the South Jersey

Building and Construction Trades Council to only hire union labor for construction. Ocean Wind further indicated that it would establish a Pro-NJ Grantor Trust with a \$15 million initial investment to enable MBE/WBE or small business entry to the OSW industry. Ocean Wind has a plan to institute a Competitive Edge program to provide construction training opportunities, educate students, establish an apprenticeship program, and partner with three New Jersey universities on education and research programs.

Strength of Guarantees for Economic Impacts

Given that no OSW projects sited in the applicants' BOEM lease areas near New Jersey have been awarded, applicants' supply chain plans, logistics plans, and other efforts to develop the OSW industry in New Jersey are fledgling. As a result, the applicants' plans and financial guarantees for certain minimum capital investments, operational and other expenditures, and jobs creation are not uniform.

Overall, Ocean Wind provided the strongest economic guarantees to help ensure local content and that New Jersey realizes the full benefits of the project. Ocean Wind provided four commitments with a financial guarantee for its planned economic development activities in New Jersey. For the Ocean Wind 1,100 MW project, the specific guarantees for planned economic development in New Jersey include the following contingent construction phase spending and operation phase jobs commitments:

Construction phase base (other than foundations fabrication) spending is guaranteed to reach a threshold of at least \$400 million, absent contingent establishment of a foundation fabrication facility by a third-party supplier, or \$695 million if such facility is established. Ocean Wind would contribute additional funds to the Pro-NJ Grantor Trust in order to achieve at least 90% of the guaranteed New Jersey construction phase expenditures.

Direct project in-state annual employment during the operation period has a conditional guarantee, contingent on whether Ocean Wind is able to use its suggested crew transport vessel logistics plan and obtain a waiver of the seasonal 10 knots/hour vessel speed restriction to/from the lease area. Absent the contingent conditions, 46 full-time equivalent (FTE) jobs would be guaranteed for each year of the operation period. If the contingent conditions are met, 69 FTE jobs would be guaranteed for each year. Additional funds would be contributed to the Pro-NJ Grantor Trust in order to achieve 75% of the annual FTEs during the wind turbine generator warranty period and 90% of direct annual FTEs thereafter.

Likelihood of Successful Commercial Operation

Several factors influence the likelihood of successful commercial operation, including project design, components, materials and supplier agreements, transmission points of interconnection, permitting, financing, and experience.

While all three applicants provided significant information regarding the likelihood of commercial success, Ocean Wind provided the best chance of successful development of 1,100 MW of OSW capacity due to the depth of knowledge base among Ocean Wind's key personnel, and both global and more recent regional experience with large OSW projects using substantially similar technology.

Ocean Wind proposed a design basis using proven technology, materials, and equipment with documented supplier agreements and commitments. In addition, of the three applicants, Ocean Wind is the farthest advanced in identifying its point of interconnection and transmission cable route. Ocean Wind has been engaged with PJM since filing interconnection requests in September of 2018.

In its application, Ocean Wind accurately identified the potential permits and authorizations needed to develop the project and has made significant progress in implementing its permitting plan. Ocean Wind has already obtained permits and authorizations needed to undertake site survey and early project development activities, including from the United States Army Corps of Engineers, the National Oceanic and Atmospheric Administration, and the Environmental Protection Agency. Ocean Wind's Site Survey Plan was submitted to BOEM in July 2017 and its SAP was submitted in September 2017 and approved in May 2018. Ocean Wind expects to submit its Construction and Operations Plan ("COP") in August 2019.

Ørsted's principal business is the development and operation of OSW projects. According to its application, Ørsted has constructed 5,100 MW of OSW capacity, principally in northern Europe, approximately 30% of the global total. According to its application, LAI's count indicates 23 projects (4,424 MW) are in operation, four (3,185 MW) are under construction, ten (5,096+ MW) are under development, and a (5 MW) has been decommissioned. In addition, Ørsted acquired Deepwater Wind in October, 2018, the only company to have developed an OSW project in the US, i.e., the Block Island Wind Farm, a 30 MW demonstration project that began operating in December 2016, which includes a 22-mile subsea cable linking Block Island to the ISO-NE grid.

Ocean Wind is being developed by and is 100% owned by Ørsted North America, an indirect subsidiary of Ørsted, the largest developer of OSW projects internationally. Ocean Wind submitted a reasonable and appropriate financing plan.

OREC Prices and Ratepayer Impacts

LAI conducted extensive price analysis to inform the Board as to how the applicants' OREC price offers compare to one another as well as the incremental, net, and total costs borne by New Jersey ratepayers if a portfolio of varying sizes is formulated for diversity sake. The Present Value of Net OREC Cost (PVNOC) was determined for each price offer using a seven percent discount rate, and by subtracting the present value of projected credits for energy and capacity revenue, and the avoided cost of New Jersey Class I RECs from the present value of payments at the OREC purchase price.

Ratepayer impacts are based on the PVNOC and divided by the present value of the MWh load that would absorb those costs. From a ratepayer perspective, a smaller project will result in lower total costs and hence a smaller rate impact. However, for a procurement of roughly 1,100 MW, rate impacts were considered for all portfolios that meet this target.

Expressed in 2019 dollars, ratepayer impacts as estimated by LAI on a monthly bill are \$1.46 for residential customers; \$13.05 for commercial customers; and \$110.10 for industrial customers.

Ratepayer impacts are largely based on revenue generated by the project and returned to ratepayers. Applicants were required to submit a plan to maximize revenue. Ocean Wind's project revenue plan identifies a strategy for producing all revenues over the 20-year OREC term. Ocean Wind is required to make a good faith effort to maximize all project revenues.

Revenues include but are not limited to revenue from the sale of energy, capacity, and renewable energy certificates (RECs) above annual allowance, ancillary services (AS), and any other product sales. Per OWEDA and N.J.A.C. 14:8-6 *et seq.* all revenue other than ORECS must be credited to New Jersey ratepayers. The Board acknowledges that Ocean Wind may sell its products directly through the PJM wholesale energy, capacity, and AS markets as well as bilateral sales, either directly by Ocean Wind or by its outsourcing to an unregulated marketing affiliate to effectuate bilateral sales.

The Board acknowledges Ocean Wind's submission of supplemental information regarding the treatment of transmission system upgrade costs, in particular, a revision to Ocean Wind's proposed transmission system upgrade cost pass-through mechanism covering its 1,100 MW project. Ocean Wind noted in its supplemental information that the goal for the amendment is to (i) align the interest between Ocean Wind and ratepayers regarding the cost of upgrades by sharing cost responsibility; (ii) demonstrate Ocean Wind's confidence in the ability to interconnect the project for a low cost; (iii) maintain a low OREC price by avoiding an unnecessary contingency; and, (iv) reduce the likelihood and impact of a potential cost to ratepayers of transmission system upgrades associated with the project.

For Ocean Wind's 1,100 MW project, the Applicant's revised transmission system upgrade cost sharing proposal is as follows:

- The Expected Case for transmission system upgrade costs is between \$36 million and \$130 million. Ocean Wind's Downside Case is up to \$174 million. Hence, Ocean Wind's revised transmission system upgrade cost sharing proposal is as follows:
 - First \$10 million - 100% paid by Ocean Wind
 - Between \$10 million and \$130 million – Ocean Wind pays 70% of costs incurred, with the remaining 30% recovered from ratepayers via the Upgrade True-Up
 - Between \$130 million and \$174 million – Ocean Wind pays 50% of costs incurred, with the remaining 50% recovered from ratepayers via the Upgrade True-Up
 - Costs above \$174 million – 100% recovered from ratepayers via the Upgrade True-Up

The Board acknowledges Ocean Wind's proposal to mitigate the costs of transmission system upgrade costs through the use of Capacity Interconnection Rights (CIRs). At the time of this Board decision, the availability and price of CIRs are unknown. The Board recognizes that Ocean Wind's ability to obtain CIRs at good value has the potential to yield significant economic benefits for New Jersey ratepayers through lower transmission system upgrade costs. The Board is generally supportive of Ocean Wind's plan to mitigate transmission system upgrade cost risk through the procurement of CIRs, provided such procurement is prudent and therefore protective of New Jersey ratepayer interests. Upon price discovery Ocean Wind is required to seek Board authorization to procure CIRs. The Board will review Ocean Wind's request on an expedited basis and will not unreasonably withhold its consent so long as the resultant cost of transmission system upgrades may be reasonably expected to be lower than would otherwise be the case absent the procurement of CIRs.

Of the possible projects or combination of projects that meet the 1,100 MW solicitation target,

the Ocean Wind 1,100 MW project offers a first year OREC price at \$98.10/MWh and a levelized OREC price of \$116.82/MWh. The levelized Net OREC Cost ("LNOC") is \$46.46/MWh. LAI estimated that the ratepayer impacts on a monthly bill are \$1.46 for residential customers; \$13.05 for commercial customers; and \$110.10 for industrial customers once the project is operational. LAI utilized Energy Information Administration (EIA) data covering the 2018 calendar year to estimate monthly usages. Although other projects presented a lower PVNOC, given the Ocean Wind 1,100 MW project's strength in all of the other evaluation criteria, an award to Ocean Wind is in the best interest of the State of New Jersey and its ratepayers.

V. CONCLUSION

As permitted by N.J.S.A. 48:3-87(b)(2)(b) and for the above reasons, the Board **HEREBY FINDS** that the Ocean Wind 1,100 MW project also demonstrates substantial additional considerations such as earliest COD, site control, and interconnection plans.

The Board further **HEREBY FINDS** that the Ocean Wind 1,100 MW project satisfies the stated goals of the Solicitation in that it 1) contributes the most out of all bids to a stronger New Jersey economy by anchoring an OSW supply chain in the State; 2) combats global climate change to protect the State and its natural resources; 3) provides the most added reliability for the transmission network and transmission rate relief for ratepayers; and 4) achieves all of this at the lowest reasonable cost and risk to ratepayers.

The Board **HEREBY FINDS** Ocean Wind's revised transmission system upgrade cost sharing proposal to be reasonable and therefore provides cost effective OREC prices to the State of New Jersey.

The Board **HEREBY FINDS** Ocean Wind's plan to mitigate transmission system upgrade costs through the procurement of CIRs to be reasonable provided Ocean Wind demonstrates that the cost of such CIRs protects New Jersey ratepayer interests.

Thus, the Board **HEREBY APPROVES** Ocean Wind's 1,100 MW project as a qualified OSW facility and is thus deemed eligible to receive ORECs subject to the terms and conditions of this Board Order.

The Board **HEREBY APPROVES** the Ocean Wind 1,100 MW project's Annual OREC Price Schedule shown in Attachment A, subject to the Terms and Conditions herein [Attachment B]. The Ocean Wind Annual OREC Price Schedule sets the fixed OREC price per MWh that they may receive for ORECs in compliance with the rules. Ocean Wind's annual OREC Allowance is 4,851,489 MWh per year at a levelized OREC price of \$116.82 per MWh (nominal dollars). This levelized OREC price is based on a first year OREC Payment of \$98.10(EY 2024) and a 2% Annual Rate of escalation which results in a fixed annual OREC price each year thereafter as shown in the Annual OREC Price Schedule attached. The OREC payment schedule shall begin on the Commercial Operation Date (COD) in calendar year 2024 as shown in the Annual OREC Price Schedule, and shall continue for a period of 20 years (240 months) ending no later than May 31, 2045, subject to all Terms & Conditions (Attachment A) and regulatory requirements. The total Annual OREC Allowance for Ocean Wind, as here approved by the Board, shall not be subject to reduction or modification during the term of this OREC order unless otherwise agreed to by the Board and Ocean Wind.

The Board acknowledges that the OREC Price as bid by Ocean Wind reflects total project costs

including the interconnection costs and transmission system upgrade cost estimates in accordance with the requirements established under OWEDA and at N.J.A.C 14:8-6. However, according to the Solicitation Guidelines, the OREC price may be trued up based on the difference between the estimated and actual transmission system upgrade costs as represented by Ocean Wind in its supplemental information submittal.

The Board **HEREBY DIRECTS** Ocean Wind to submit its trued-up OREC price to the Board upon receipt of the final cost of transmission system upgrades from PJM, including the PJM final cost study and Ocean Wind's full and complete calculation of the trued-up OREC price for the Board's review and approval.

The Board **HEREBY DECLARES** that as a Qualified OSW facility, Ocean Wind shall only be entitled to OREC payments for megawatt hours (MWh) actually generated over the 20-year term from COD as delineated in this Board Order, and shall have no recourse against the Board, the suppliers, the EDCs, the OREC Administrator, or the ratepayers for any additional payments. Ocean Wind may not exceed the Annual OREC Allowance of 4,851,489 MWh. As detailed in N.J.A.C. 14:8-6.6, any unmet OREC allowances in a given year may be carried forward to the next year to provide a reasonable opportunity to meet the project's total production.

The Board **HEREBY DIRECTS** that all revenues generated by the Ocean Wind 1,100 MW project, including but not limited to the Market Revenues estimated in the application shall be collected, managed, and returned to ratepayers in compliance with OWEDA and the rules at N.J.A.C.14:8-6.6. As required under these rules, Ocean Wind shall take all reasonable efforts and due diligence to maximize revenues from the qualified OSW project, as required by N.J.A.C. 14:8-6.6(e). Ocean Wind shall also be responsible for the collection and transfer of all project revenues on behalf of ratepayers and shall be bound by all additional requirements under N.J.A.C. 14:8-6.6(f).

The Board **HEREBY DIRECTS** that Ocean Wind's market revenue settlement procedure must maximize ratepayer interests subject to the floor mechanism linked to PJM's Real Time Market, annual BRA governing capacity prices, any applicable as revenues, as well as the sale of RECs to third parties enabled by Ocean Wind's generation output.

The Board **HEREBY DIRECTS** the EDCs to serve as payment agents, on behalf of all suppliers obligated under the Renewable Portfolio Standard rules, to facilitate the collection and transfer of monthly OREC payments from ratepayers to Ocean Wind in compliance with the rules at N.J.A.C. 14:8-6.6(c).

The Board **HEREBY DIRECTS** the EDCs to implement a monthly OSW surcharge on ratepayers as required by N.J.A.C. 14:8-6.6(c). The EDCs shall file a tariff with the Board no later than 180 days prior to the Ocean Wind COD to collect a non-bypassable OREC surcharge to be assessed as a distribution charge that will be sufficient to meet each supplier's OREC obligation. The EDCs shall implement the ratepayer surcharge based on the Board-approved total Annual OREC allowance for Ocean Wind multiplied by the OREC price, and expressed as a per kilowatt hour (kWh) charge to be collected from all ratepayers on behalf of the suppliers. The EDCs shall begin collecting the OREC surcharge four months in advance of the Ocean Wind project COD to ensure that adequate funds will be available to complete the initial OREC payment to the Ocean Wind. The surcharge shall be implemented in compliance with N.J.A.C. 14:8-6.6 (c).

The Board **HEREBY DIRECTS** the EDCs to file with the Board annually for recoverable charges

for the administrative fees incurred as payment agent and for the OREC Administrator fees.

The Board **HEREBY DIRECTS** the EDCs to enter into a joint contract to retain an OREC Administrator to facilitate all transactions between ratepayers, suppliers, EDCs, and OSW developers, who will be responsible for tracking and verifying all payments and obligations as described under N.J.A.C. 14:8-6.6. The OREC Administrator will establish a standard Participation Agreement for the EDCs and Ocean Wind as a Qualified OSW Project. Based on the participation of all parties, the OREC Administrator shall conduct a true-up twice per year to ensure compliance with the Renewable Portfolio Standards and as stipulated under N.J.A.C. 14:8-6.6. The contract for the OREC Administrator shall be competitively bid by the EDCs to ensure the most efficient and cost competitive price for ratepayers. In furtherance of this directive, the EDCs shall draft and submit to the Board for approval, a Request for Proposal to jointly solicit an OREC Administrator. The OREC Administrator shall be retained no later than one year prior to the Ocean Wind 1,100 MW project COD.

The Board **HEREBY DIRECTS** Ocean Wind and the EDCs to enter into and comply with the Standard Participation Agreement to be established by the OREC Administrator. The Standard Participation Agreement and any subsequent modifications shall be developed by the OREC Administrator and approved by the Board.

The Board **HEREBY DIRECTS** staff to establish an OSW carve-out to the Class I Renewable Portfolio Standards based on the approved Ocean Wind 1,100 MW project annual OREC allowance of 4,851,497 MWh within eighteen months of the date of this Order.

With the approval of the Ocean Wind 1,100 MW project, the OSW capacity for the September 20, 2018 Solicitation is fulfilled, and thus, all other responses submitted under this Solicitation are **HEREBY DENIED**.


I. TERMS AND CONDITIONS


As required by OWEDA and the Board's regulations, the specific terms and conditions of award made in this Board Order are provided in Attachment B to this Order.

The effective date of this Order is June 21, 2019.

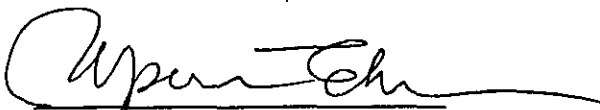
DATED: 6/21/19

BOARD OF PUBLIC UTILITIES
BY:

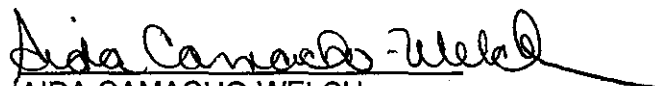

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ROBERT M. GORDON
COMMISSIONER

ATTEST: 
AIDA CAMACHO-WELCH
SECRETARY

I HEREBY CERTIFY that the within
document is a true copy of the original
in the files of the Board of Public Utilities.

IN THE MATTER OF THE OPENING OF OREC APPLICATION WINDOW FOR 1,100
MEGAWATTS OF OFFSHORE WIND CAPACITY EXECUTIVE ORDER NO. 8
BPU Docket No. QO18080851

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ATTACHMENT A – ANNUAL OREC PRICING SCHEDULES

**Annual OREC Price Schedule and Planned Output Schedule
1,100 MW Ocean Wind Project**

	<u>Phase 1</u>	<u>Phase 2</u>	<u>Phase 3</u>
Nameplate Capacity (MW)	368	368	368
COD (month/year)	May-24	Sep-24	Dec-24

Energy Year, ending May 31 of	All-in OREC Price (\$/OREC)	Phase 1 Output (months)	Phase 2 Output (months)	Phase 3 Output (months)
2024	\$ 98.10	1	-	-
2025	\$ 100.06	12	9	6
2026	\$ 102.06	12	12	12
2027	\$ 104.10	12	12	12
2028	\$ 106.18	12	12	12
2029	\$ 108.30	12	12	12
2030	\$ 110.47	12	12	12
2031	\$ 112.68	12	12	12
2032	\$ 114.93	12	12	12
2033	\$ 117.23	12	12	12
2034	\$ 119.57	12	12	12
2035	\$ 121.96	12	12	12
2036	\$ 124.40	12	12	12
2037	\$ 126.89	12	12	12
2038	\$ 129.43	12	12	12
2039	\$ 132.02	12	12	12
2040	\$ 134.66	12	12	12
2041	\$ 137.35	12	12	12
2042	\$ 140.10	12	12	12
2043	\$ 142.90	12	12	12
2044	\$ 145.76	11	12	12
2045	\$ 148.68	-	3	6

Note: The "All-in" OREC Price is prior to the requested true-up of system upgrade costs.

ATTACHMENT B – ADDITIONAL TERMS AND CONDITIONS

This Board Order approving the Ocean Wind 1,100 MW project is subject to the following additional terms and conditions and all applicable federal, state and local laws and regulations, including, but not limited to, OWEDA, Executive Order No. 8, the Board's OSW 1,100 MW Solicitation, the Board's Guidelines for Application Submission for Propose Offshore Wind Facilities and the Board's implementing regulations at N.J.A.C. 14:8-6 et seq.

The following terms and conditions shall also apply:

- 1) Ørsted North America, Inc., ("Ørsted") as the sole owner of Ocean Wind shall also be subject to these terms and conditions;
- 2) The Ocean Wind project shall have a Commercial Operation Date ("COD") of May 1, 2024 / September 1, 2024 / December 1, 2024, reflecting three phases of project development and completion, after which ORECs for each phase of the project may be generated, priced, sold, or otherwise attributed to the project;
- 3) The total Annual OREC Allowance of 4,851,489 MWhs per year, as approved by the Board, shall not be subject to reduction or modification during the term of this OREC Order unless otherwise agreed to by the Board and Ørsted or its successor;
- 4) Ocean Wind may not exceed the annual OREC allowance of 4,851,489 MWh per year in any given year. Any unmet OREC allowances in a given year may be carried forward to the next year, as required by N.J.A.C. 14:8-6.6(b);
- 5) In addition to the requirements of N.J.A.C. 14:8-6.6(f) Ocean Wind shall follow the Settlement Procedure detailed below relative to returning project revenue to ratepayers. If Ocean Wind's revenue management program incorporates bilateral sales of energy, capacity, and/or AS, a monthly revenue index calculation of energy and capacity revenues based on PJM market prices for real-time energy prices at the injection nodes and BRA prices for the applicable zone and the actual quantities of energy and capacity sold shall be calculated by the OREC Administrator. The settlement procedure for this monthly calculation will serve as a floor governing the crediting of market revenues to New Jersey ratepayers. In addition, project revenues from all other sources shall also be credited in the calculation of Net OREC cost.
- 6) After month twelve (12) of the OREC term, the preceding twelve months of market index total energy plus capacity revenues shall be compared with actual project revenues from these two sources. The greater of actual and index market revenues for energy plus capacity sales will be credited in the calculation of net OREC cost for the settlement month. This same settlement method shall be used for each of the remaining nineteen years of the OREC price schedule.
- 7) Ocean Wind shall maintain and update the Ocean Wind Environmental Protection Plan, submitted under its application to the Board, to ensure that natural resources are protected throughout the development, operation, maintenance and decommissioning stages of the project and to ensure mitigation of potential impacts and information sharing with interested parties:
 - a) Ocean Wind shall maintain and update the Ocean Wind Environmental Protection Plan at key project milestones, including commencement of construction, completion of construction, and every two years thereafter, through decommissioning, or at other times as requested by NJDEP. Ocean Wind's Environmental Protection Plan shall be updated to ensure New Jersey's natural resources, including fin fish and shellfish, sea turtles, marine mammals, avian species, bats and benthic populations are protected throughout the life of the project from pre-construction through decommissioning and that any impacts are being actively monitored and mitigated as required by law;

- b) Ocean Wind shall report annually to the Board and NJDEP on actions taken by the developer to ensure environmental protection, mitigation of environmental impacts as well as efforts to advance our understanding of the marine environment;
 - c) Ocean Wind shall report annually to the Board and NJDEP and shall make public through appropriate data portals, existing or developed, any data collected in the pursuit of the development of this project from pre-construction activities through decommissioning activities. All collected information and scientific data not deemed confidential by statute or regulation shall be shared. Specifically, data with particular emphasis on natural resources including, but not limited to, fin fish and shellfish, sea turtles, marine mammals, avian species, bat and benthic populations, as well as data regarding vessel strikes, avoidance, observations on habitat, and routine data collection on ocean conditions shall be shared. The Board is particularly interested in fostering a transparent and collaborative information-sharing partnership with academia, stakeholders and state agencies or programs, including the WIND Institute; and
 - d) Ocean Wind shall report annually on the policies and programs that may be adopted by the Board to help reduce future environmental impacts or enhance the protection of natural resources.
- 8) Any grant program established under this award to provide bill payment assistance to electric and gas utility customers in need of immediate assistance must be competitively bid, unless the public interest mandates otherwise.
 - 9) Ocean Wind shall provide documentation to the Board of construction phase in-state expenditures within 90 days after the COD of the final phase for the purpose of determining the amount of any additional contribution to the Pro-NJ Trust in order to reach at least 90% of the guaranteed expenditure levels of \$411 million absent establishment of a third-party foundation fabrication facility or of \$695 million if such facility is established.
 - 10) Ocean Wind shall provide documentation to the Board of operation phase in-state FTE jobs within 90 days after each operation year, starting with the final phase COD, for the purpose of determining the amount of any additional contribution to the Pro-NJ Trust. Absent the contingent crew transport vessel logistics plan and waiver of the 10 knots/hour speed restriction, Ocean Wind shall guarantee 46 FTE jobs each operation year, or 69 FTE jobs with the conditions met. Ocean Wind shall provide documentation to the Board of worker compensation for the purpose of calculating any required contribution to the Pro-NJ Trust in order to reach at least the employee compensation equivalent of 75% of the guaranteed level during the wind turbine generator warranty period and 90% of direct annual FTEs thereafter.
 - 11) Per N.J.A.C.14:8-6.5(a)(12)(vii), the OREC pricing method shall represent the calculation of the price based on the total revenue requirements of the project over a 20-year period. As detailed further in Attachment A, Ocean Wind's 1,100 MW project's first phase COD is May 1, 2024, second phase is September 7, 2024, and the third phase December 1, 2014. The project will be built and commence operations in distinct phases. The phased approach allows the project to bring clean energy to New Jersey in the most efficient way possible. Ocean Wind has committed to deliver on the COD dates listed in Attachment A. However, given uncertainties to various aspects of the project and the changing conditions in the marine environment, Ocean Wind may reserve the right for the COD to be delayed for up to, but no longer than, 6 months from each respective COD without any effect on the overall OREC period. In the event of a delay of not more than 6 months from each respective COD, the start of the OREC period will be delayed an equal amount of time. Any delay(s), for any reason, beyond the 6 months from each respective COD, would qualify as a material change to the binding Pricing Schedule listed in Attachment A, and therefore be subject to Board approval. The Board retains the right to deny requests for changes to the OREC

Pricing Schedule beyond 6 months from each respective COD and hold Ocean Wind to the OREC Pricing Schedule provided in Attachment A.