Agenda Date: 9/17/18
Agenda Item: 8G

STATE OF NEW JERSEY

Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, New Jersey 08625-0350
www.nj.gov/bpu/

CLEAN ENERGY

IN THE MATTER OF THE OPENING OF OFFSHORE WIND RENEWABLE ENERGY CERTIFICATE (OREC) APPLICATION WINDOW FOR 1,100 MEGAWATTS OF OFFSHORE WIND CAPACITY IN FURTHERANCE OF EXECUTIVE ORDER NO. 8	)	ORDER
	)	DOCKET NO. QO18080851

Parties of Record:

Matthew M. Weissman, Esq., Public Service Electric and Gas Company
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Robert H. Oostdyk Jr., Esq., Murphy McKeon P.C., on behalf of Butler Power and Light
Stefanie A. Brand, Esq., Director, New Jersey Division of Rate Counsel

BY THE BOARD:

The New Jersey Board of Public Utilities ("Board" or "BPU") here considers the opening of an application window for qualified offshore wind projects, in furtherance of implementing Governor Murphy's Executive Order No. 8 (2018) ("EO8"), which explicitly calls upon the Board to fully implement the Offshore Wind Economic Development Act ("OWEDA") of 2010, P.L. 2010, c. 57, as amended, N.J.S.A. 48:3-87 to -87.2, and to proceed with a solicitation of 1,100 megawatts of offshore wind capacity as a first step in meeting the State's goal of 3,500 megawatts of offshore wind capacity by 2030. The solicitation of 1,100 MWs will be the nation's largest solicitation of offshore wind capacity to-date and will spur the development of new clean energy sources that will create new jobs while reducing greenhouse gases that cause global warming and climate change.

The application window will allow offshore wind project developers to submit applications consistent with the requirements established under OWEDA and in compliance with the rules at N.J.A.C. 14:8-6 that specify an application process and application requirements for an offshore wind project to be deemed eligible by the Board to receive state subsidies in the form of Offshore Wind Renewable Energy Certificates ("ORECs"). The rules specifically provide that "The Board will announce the open and close dates for all application periods, which shall be set at the Board's discretion." N.J.A.C. 14:8-6.3(b).

By acting now, the Board can help ensure that offshore wind projects built off the coast of New Jersey qualify for federal investment tax credits that expire in 2019 and thus save New Jersey ratepayers 12% of the total project costs or an estimated $300 million dollars.

BACKGROUND AND PROCEDURAL HISTORY

On August 19, 2010, Governor Chris Christie signed into law OWEDA, which amended and supplemented the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq. On February 10, 2011, the Board adopted rules, N.J.A.C. 14:8-6.1 et seq., providing an application process and a framework under which the Board will review any application and ultimately approve, conditionally approve, or deny the application. The Board readopted N.J.A.C. 14:8-6.1 et seq. with amendments on January 23, 2013. See 45 N.J.R. 336(a) (amended by R.2013 d.039, effective February 19, 2013).

These rules provide an application process and a framework under which the Board will consider and, if appropriate, approve applications for qualified offshore renewable facilities and ORECs. The rules include 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 offshore wind renewable portfolio standards.

On January 31, 2018, Governor Phil Murphy signed EO8, calling upon the Board to fully implement OWEDA and initiate an Offshore Wind Strategic Planning Process with the assistance of the DEP. In support of this action, the Department of the Treasury is directed to work with the BPU and the DEP "to ensure that necessary resources and expertise, including an offshore wind economic consultant, are available to advise and assist in the implementation of OWEDA and this Order." EO8 at ¶ 4.

By Board Order dated February 28, 2018, the Board directed Staff to take specific actions to implement EO8, including to "[p]repare for the solicitation of the initial 1,100 megawatt goal of offshore wind capacity. Staff shall examine other State solicitations for offshore wind capacity and in conjunction with the OSW Strategic Planning Process, engage offshore wind developers and stakeholders in defining minimum requirements for the solicitation." Id. at 3.

EO8 called upon the BPU, to within sixty (60) days, "initiate the administrative rulemaking process to establish the OREC Funding Mechanism, through which rules and regulations shall describe the flow of payments for ORECs from suppliers to offshore wind developers. The OREC Funding Mechanism regulations shall also define the administrative steps to ensure, verify and account for OREC payments to offshore wind developers." EO8 at ¶ 6.

In furtherance of EO8, the February 28 Board Order also directed Staff to initiate a rule making proceeding for the OREC Funding Mechanism Rules.

On May 23, 2018, Governor Murphy signed into law P.L. 2018, c. 17, amending N.J.S.A. 48:3-87(d)(4), and requiring that the Board establish an OREC program to support at least 3,500 MW of generation of qualified offshore wind projects.

On August 20, 2018 proposed amendments to N.J.A.C. 14:8-6 to establish the OREC funding mechanism were published in the New Jersey Register and will be subject to a 60-day public comment period. See 50 N.J.R. 1879(a).

OREC Funding Mechanism

On July 25, 2018, the Board proposed new rules and amendments to N.J.A.C. 14:8-6 to establish the OREC funding mechanism. The purpose of this rulemaking is to set forth the method and processes by which ratepayers will fund an offshore wind ("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 delivered to ratepayers. Under the existing rules, each Basic Generation Service supplier or provider that sells electricity to retail customers in New Jersey 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 offshore wind project (see N.J.A.C. 14:8-6.2). The proposed new rules describe the method by which suppliers will meet this obligation and how funds from the sale of ORECs will flow to the qualified offshore wind projects. The new rules and amendments also describe how revenues earned by offshore wind projects, including the sale of electricity, capacity, and other services, will be refunded to ratepayers as required under OWEDA. The rule is subject to a 60-day comment period at which point it may be adopted if there are no substantial changes.

Offshore Wind Solicitation of 1,100 Megawatts

The 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 MWs. The request for comments was distributed to all interested parties and posted on the Board's website on June 29, 2018. A public meeting was held on July 19, 2018 at Mercer Community College to provide interested stakeholders an opportunity to provide comments directly to Board Staff. All written comments were then posted on the Board's website and Board Staff convened meetings with stakeholders to solicit any additional input and guidance.

Stakeholders were nearly unanimous in urging the Board to move forward with a solicitation of 1,100 megawatts in 2018 so that projects may have the opportunity to qualify for the Federal Investment Tax Credit ("ITC"), which expires on December 31, 2019. The 2019 ITC could represent over $300M in savings for ratepayers. Thus, the Board needs to open an application window in 2018 to have sufficient time to conduct a thorough evaluation of the applications and deliberate on the merits of the OREC proposals in time for projects to qualify for the 2019 ITC as shown in the attached Schedule. Per the published rules, the Board has 180 days from the date that an application is deemed to be complete to evaluate, deliberate and make a final decision.

Board Staff also researched and considered the parameters, experiences and outcomes of offshore wind solicitations of other States including Massachusetts, Rhode Island, Connecticut, New York and Maryland – all of which have moved forward with successful solicitations for offshore wind within the past 18 months.

Application Process

Consistent with OWEDA, the BPU rules at N.J.A.C. 14:8-6.3 establish the timeframe for an application process as follows:

a) An entity seeking to receive ORECs in connection with an offshore wind project shall submit an application to the Board for approval as a qualified offshore wind project. The

application must meet the requirements set forth in this section (N.J.A.C. 14:8-6.1-5), as well as all applicable requirements of this chapter, and of other applicable State and Federal laws.

b) The Board will announce the open and close dates for all application periods, which shall be set at the Board's discretion.

c) The Board shall approve, conditionally approve, or deny the application within 180 days of the receipt of a completed application. The parties may consent to an extension beyond 180 days.

d) The applicant shall meet with Board staff and representatives of the Division of Rate Counsel no less than 30 days prior to submission of an application to discuss all aspects of the application.

e) All applications must be consistent with Board application standards as set forth in Title 14 of the New Jersey Administrative Code.

Board Staff must notify the applicant within 30 days of the submission if the application is administratively complete or is deficient. If the application is deficient, the applicant will be advised which items must be remedied to correct the deficiency or deficiencies. Within 180 days of the receipt of a completed application, the Board shall then approve, conditionally approve, or deny the application. Applications are due on December 28, 2018 and will be reviewed for a determination of completeness by January 28, 2018. The Board then has 180 days or until June 28, 2019 to evaluate, deliberate and make a determination on the application. Offshore wind developers need roughly six months from the date of a Board Decision to qualify for the ITC, which expires December 31, 2019.

Offshore Wind Solicitation Guidance Document

The attached *New Jersey Offshore Wind Solicitation Guidance Document* ("Guidance Document") is consistent with the rules governing the application requirements at N.J.A.C. 14:8-6.5 and provides further clarification on the State's goals and Board's rules governing the application for ORECs. Whereas, the rules at N.J.A.C. 14:8-6 list all minimum filing requirements, the Guidance Document provides guidance on the preparation of the Application, standards and assumptions to be used in calculating net economic benefits, the formats to be used for submittal of the information required under the rules, evaluation criteria stipulated under the rules, the solicitation schedule, and key dates, including Application Open and Close Dates, the date of a Technical Bidder's Conference, as well as dates for scheduled meetings with Rate Counsel and BPU Staff. The Guidance Document is intended: to 1) simplify the application process by compiling all the relevant requirements in one place; 2) ensure a fair and competitive solicitation process by giving all potential bidders equal access and opportunity to ask questions and receive guidance; and 3) facilitate the evaluation of bid proposals across projects and bid proposals.

Offshore Wind Reimbursement Fund

Pursuant to N.J.S.A. 48:3-87.1(c)(4), an applicant is required to "reimburse the board and the State for all reasonable costs incurred for regulatory review of the project, including but not limited to consulting services, oversight, inspections, and audits." Pursuant to N.J.A.C. 14:8-6.5(a)(15), the Board has determined that the initial deposit for reimbursement for each

application is $150,000, with additional funds to be submitted as necessary and determined by Board Staff.

BOARD STAFF RECOMMENDATIONS

Upon review and consideration of all comments and input received by stakeholders, Board Staff now recommends that the Board open an application window for qualified offshore wind projects to be deemed eligible to receive ORECs. Board Staff recommends that the Board open an application window **from September 20 to December 28, 2018** to allow interested applicants sufficient time to prepare and submit their applications for review. All bids should be due on December 28, 2018 to allow bids to be reviewed simultaneously. The Solicitation should follow the guidelines outlined in the Guidance Document which reflects the rules at N.J.A.C. 14:8-6. Board Staff also recommends that the Board direct applicants to submit bid proposals based on the adopted OREC Application rules at N.J.A.C. 14:8-6.1 through 14:8-6.5 and based on the proposed OREC Funding Mechanism Rules at N.J.A.C. 14:8-6.6. Board Staff further recommends that the Board publish New Jersey's Solicitation Schedule in advance of the application window to give the market full view of future solicitations, which may positively influence investment decisions.

FINDINGS AND DISCUSSION

Consistent with OWEDA, the OWEDA rules, and EO8, the Board has carefully considered Staff's recommendations and the fact that it has been a full eight years since OWEDA first set a mandate for the State to obtain a minimum of 1,100 megawatts of offshore wind capacity under its Class I Requirements for New Jersey's Renewable Portfolio Standards. The Board **FINDS** that the proposed OREC Funding Mechanism Rules provide the necessary regulatory framework to enable project financing. The Board also **FINDS** that it is in the best interest of the State and its ratepayers to act now to open an application window so that offshore wind projects may have the opportunity to qualify for the federal ITC and thus save the State and ratepayers 12 percent off the total cost of projects. The Board further **FINDS** that it has taken all the appropriate steps called for by Governor Murphy under EO8 to implement OWEDA and is now prepared to proceed with a solicitation of 1,100 megawatts.

Pursuant to N.J.A.C. 14:8-6.3(b), the Board **HEREBY OPENS** an application window commencing on Thursday, September 20, 2018, and ending on Friday, December 28, 2018, for offshore wind projects in federal waters off the outer continental shelf of the coast of New Jersey consistent with OWEDA. Pursuant to N.J.S.A.48:3-87.1(c)(4), the Board may recover reasonable costs related to its review of an OSW application, including but not limited to consulting services. The Board **HEREBY APPROVES** the use of the Guidance Document, to inform applicants of the solicitation process and application requirements consistent with the rules at N.J.A.C. 14:8-6. The Board accordingly **HEREBY DIRECTS** applicants to place $150,000 on deposit with the State. In addition, Staff is **HEREBY AUTHORIZED** to require the applicant to place additional amounts on deposit in the OSW reimbursement fund consistent with N.J.S.A. 48:3-87.1(c)(4), as necessary. Therefore, the Board, pursuant to OWEDA, the OWEDA regulations, and EO8, **HEREBY INVITES** any and all interested parties to submit applications for offshore wind projects in federal waters off the coast of New Jersey that are able to interconnect to the transmission system in New Jersey.

This Order shall be effective on September 17, 2018.

DATED: 9/17/18

BOARD OF PUBLIC UTILITIES
BY:

JOSEPH L. FIORDALISO
PRESIDENT

MARY-ANNA HOLDEN
COMMISSIONER

DIANNE SOLOMON
COMMISSIONER

UPENDRA J. CHIVUKULA
COMMISSIONER

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 IN FURTHERANCE OF EXECUTIVE ORDER NO. 8 - DOCKET NO. QO18080851

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GUIDELINES FOR APPLICATION SUBMISSION FOR PROPOSED OFFSHORE WIND FACILITIES

New Jersey Board of Public Utilities
44 S Clinton Ave, Trenton, NJ

September 17, 2018

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Section 1.0 INTRODUCTION AND OVERVIEW OF THE OREC PROGRAM

Subsection 1.1 Background

New Jersey Governor Philip D. Murphy signed Executive Order No. 8 on January 31, 2018. The purpose of the Order was to reinvigorate the implementation of the State's Offshore Wind Economic Development Act (OWEDA or the "Act").[1]

The Governor made his intent clear. With "some of the best offshore wind resources in the world" he said New Jersey could "combat the threat of global climate change" to protect New Jersey and also "provide reliability and relief for the regional electric grid, which is the largest, most congested and most costly in the nation."[2]

Moreover, the Governor saw that "an aggressive offshore wind energy production goal" could result in the State housing key parts of the offshore wind supply chain for the Atlantic Coast which in turn would "contribute to a stronger New Jersey economy."[3] To this end, Governor Murphy set a "goal of 3,500 MW of offshore wind energy generation by the year 2030."[4]

As a significant step toward the Governor's goal, the New Jersey Board of Public Utilities (BPU) is now soliciting applications for the development of up to 1,100 MW of offshore wind energy generation. The purpose of this Guidance Document is (a) to state all the requirements for an offshore wind developer to apply under this solicitation and (b) to explain how applications will be evaluated.

The Guidance Document explicitly draws from four other, significant documents: (a) OWEDA; (b) the BPU-approved Rules for a project application under OWEDA (N.J.A.C. 14:8-6); (c) Executive Order No. 8; and (d) the proposed OREC Funding Mechanism.[5] All four of these documents are attached to this Guidance Document because they give essential guidance for the submission of applications to this solicitation.

Separate from this Guidance Document is the attached Offshore Wind Application Form – each Applicant must submit this "at a glance" summary of its Project Proposal. The Form includes important information from the applicant ranging from the calculation of a levelized OREC Purchase Price to a signed agreement that the applicant makes all commitments required to be a Qualified Offshore Wind Project.

[1] P.L. 2010, c. 57, signed into law August 19, 2010.
[2] Executive Order No. 8 p 1.
[3] *Ibid* p 1-2.
[4] *Ibid* p 2.
[5] Proposed Amendments and New Section: *N.J.A.C.* 14:8-6**,** BPU Docket QX18040466. ("OREC Funding Mechanism")

In addition, each applicant must submit the attached Project Completeness Checklist to assure that all the materials required of an applicant have been submitted.

Subsection 1.2 Overview of the Solicitation

This solicitation seeks to secure offshore wind renewable energy certificates (ORECs) from up to 1,100 MW of Qualified Offshore Wind Projects (Qualified Projects).

Qualified Offshore Wind Projects are wind turbine electric generation facilities located in the Atlantic Ocean and connected to the electrical transmission system in New Jersey and approved by the BPU.[6] ORECs represent the environmental attributes of generation from these projects.[7] For each MWh generated and delivered to the transmission grid, a Qualified Offshore Wind Project will be credited with one OREC.

For each OREC, the Qualified Offshore Wind Project will be paid its stated OREC Purchase Price which reflects the all-in costs of the Project – that is, the total capital and operating cost for that Project offset by any state or Federal tax or production credits and other subsidies or grants, as approved by the BPU.[8] The OREC Purchase Price will be fixed for each of the first 20 years of the Project's commercial operation. Since the OREC Purchase Price is fixed and is paid only for actual offshore wind generation, New Jersey ratepayers will NOT bear the risk of a Project suffering cost overruns, poor performance, or failing to come on line at all. This is a pay-for-performance transaction.

Once the BPU approves Qualified Projects as a result of this process, the BPU will establish a Statewide OREC purchase requirement for future Energy Years in an amount to support the output of all Qualified Projects. This output will be an offset to existing State Class I renewable energy requirements.

A Qualified Project may sell ORECs up to a bidder-specified maximum quantity each year – this quantity is called the "Annual OREC Allowance."[9] Additional ORECs may be held by the Project and sold in future years. ORECs are eligible to be sold in the Energy Year in which they are generated and for 2 additional Energy Years beyond that.[10] If the Qualified Project falls short of its Annual OREC Allowance, any shortfall may be added to the following year's Allowance. This is a cumulative effect, so shortfalls in multiple years will continue to increase the Annual OREC Allowance. In these ways, the Applicant will be given the opportunity to realize over the 20-year life of the Project the full OREC Allocation.

In return for the sale of ORECs, Qualified Projects are required to return all revenues received from sales of energy, capacity, ancillary services, and other sources. Sales include all sales – not just those in PJM Markets, but all others including bilateral contract sales. The mechanics for the

[6] N.J.A.C. 14:8-6.1.
[7] *Ibid*
[8] N.J.A.C. 14:8-6.5, (a) 12.vii.
[9] OREC Funding Mechanism, p 2.
[10] *Ibid* p3, An "Energy Year" means the 12-month period from June 1 through May 31 and is numbered according to the calendar year in which it ends.

transfer of ORECs and market revenues are spelled out in more detail in the BPU's OREC Funding Mechanism, attached to this document.

Note that the OREC Funding Mechanism is currently under consideration by the BPU. The BPU is accepting comments regarding the Funding Mechanism through October 20, 2018. The BPU plans to set a date for consideration of the adoption of the OREC Funding Mechanism Rules before the close of the application window.

Section 2.0 TIMELINE AND MECHANICS OF THE SOLICITATION

Subsection 2.1 Timeline for Submission and Evaluation

The provisional timeline for this procurement is shown below.

Procurement Timeline

Event	Date
Board Consideration of Solicitation	9/17/2018
Procurement Website goes live	10/5/2018
Technical Conference	10/10/2018
Applicants meet with the BPU and Rate Counsel	11/26-11/27/2018
OREC Application Window	9 AM to 5 PM 12/28/2018
Determination of Completeness	1/27/2019
Application Evaluation Window	1/28/2019-6/26/2019
Recommendations to the BPU	5/1/2019
Board Decision	by 6/30/2019
Post-bid Meeting (if requested)	8/2019
Deadline for Qualification for ITC	12/31/2019

Subsection 2.2 Website and Technical Conference

A website will be created for the solicitation by the BPU at http://NJOffshoreWind.com. This website will serve as the main point of contact between the BPU and interested developers. The website will also include all procurement documents.

A Technical Conference will be held on October 10, 2018, at 10 A.M. EDT at the Board's offices in Trenton. During this conference, the BPU will review key details of the solicitation, including application requirements and evaluation standards and answer bidder questions.

To assure all applicants have the same information, a Question and Answer (Q&A) page will be set up on the website. All questions asked and answered at the technical conference or at any other time will be posted with bidder names and other identifying details removed to protect bidder confidentiality.

Subsection 2.3 Proposal Submission

Applications from projects seeking to be deemed Qualified Projects are due between 9 AM and 5 PM EDT on December 28, 2018. Applications must be submitted electronically through the website. Registered applicants will be able to upload documents to the website at any time, but submissions will not be reviewed by the BPU until the bid window has closed. Bidders are encouraged to begin uploading documents prior to the bid due date in order to ensure a successful submission.

Subsection 2.4 Bid Requirements

Bidders may offer projects up to 1,100 MW in size. The minimum offer size is 300 MW. Bidders may offer any size project within those parameters. However all bidders must offer at least one bid alternative sized at 400 MW. The purpose of this is to inform the BPU about the cost of diversity, in other words, to see whether there is a price premium if the BPU were to choose multiple, smaller offers in an attempt to minimize risk by diversity across Project sponsors, technology types, and wind resource locations and to facilitate comparison between bids while allowing the BPU flexibility in its procurement of 1,100 MW. Throughout, the effect of Project size on the likelihood of anchoring a New Jersey supply chain also will be assessed.

An estimate of direct transmission interconnection costs must be included in the OREC Purchase Price along with documentation supporting the estimate. That estimate must be provided separately from all other capital and operating costs. Once the winner or winners of the solicitation are known, if an opportunity to reduce interconnection costs is defined, the BPU will work with the winner or winners to identify ways to reduce these costs.

An estimate of Transmission System Upgrade costs must also be included in the OREC Purchase Price along with documentation. While the BPU prefers a fixed price offer, they will entertain offers in which the OREC price is trued up based on the difference between estimated and actual system upgrade costs.

To defray the cost of reviewing the applications, bidders must provide a bid fee of $150,000 per Project. This base fee covers a single “base” Application plus two variations or “alternatives” of the offer. Variations include changes in project size, interconnection point or additions of other benefits such as energy storage. Additional bid application options will be evaluated for a fee of $25,000 per option.

Per N.J.A.C. 14:8-6.3.(d) the applicant shall meet with Board staff and representatives of the Division of Rate Counsel, no less than 30 days prior to submission of an application to discuss all aspects of the application. Applicants are also encouraged to meet with the members of the New Jersey Department of Environment Protection and Economic Development Authority.

Once bids are submitted the BPU will make an initial determination of application completeness. The BPU will notify bidders as soon as possible regarding application deficiencies.

Once projects are deemed complete, the BPU will evaluate the offer as described in this document. The BPU may ask for best and final offers from projects deemed to be administratively complete. The BPU has 180 days from the receipt of a completed application to evaluate any offer. The schedule above contemplates a BPU decision in late June in order for developers to have sufficient time to acquire the Federal Investment Tax Credit.

After the Board Decision announcing Qualified Projects is made a post-bid meeting may be requested by each bidder to receive feedback on the proposal and discuss potential areas of improvement for future solicitations.

Section 3.0 MATERIALS REQUIRED FROM APPLICANTS

The materials to be submitted by interested bidders are based on requirements laid out in the New Jersey Administrative Code (N.J.A.C. 14:8-6), which is attached to this document. This section provides a basic overview of the materials to be submitted.

Bidders are required to submit the following materials, the list below also shows the specific cite to the N.J.A.C. which asks for such information (where applicable). More detailed descriptions are provided later in each listed subsection.

Subsection 3.1 Developer Information (14:8:6.5.(a).1)
Subsection 3.2 Project Description (14:8:6.5.(a).2)
Subsection 3.3 Financial Analysis (14:8:6.5.(a).3)
Subsection 3.4 Project Financing Plan (14:8:6.5. (a).4)
Subsection 3.5 Documentation of Financial Incentives (14:8:6.5. (a).5)
Subsection 3.6 Project Revenue Plan & Strategy (14:8:6.5. (a).6)
Subsection 3.7 O&M Plan (14:8:6.5. (a).7)
Subsection 3.8 Emissions Impact (14:8:6.5.(a).8)
Subsection 3.9 Decommissioning Plan (14:8:6.5. (a).9)
Subsection 3.10 Permitting Plan (14:8:6.5.(a).10)
Subsection 3.11 Cost Benefit Analysis (N.J.A.C 14:8:6.5. (a).11)
Subsection 3.12 OREC Pricing Schedule (14:8:6.5.(a).12)
Subsection 3.13 Project Timeline (14:8:6.5.(a).13)
Subsection 3.14 Interconnection Plan (14:8:6.5. (a).14)
Subsection 3.15 Environmental Protection Plan N.J.A.C 14:8-6.5 (11)
Subsection 3.16 Economic Development Plan N.J.A.C 14:8-6.5 (11)
Subsection 3.17 Bid Deposit (14:8:6.5. (a).15)
Subsection 3.18 Application Form
Subsection 3.19 Additional Information

To assist bidders in preparing their application, a Project Completeness Checklist – a condensed statement of the requirements from the Act and the N.J.A.C. along with supplemental information deemed necessary by the BPU – is attached to this document. This Project Completeness Checklist is intended to allow applicants and evaluators to assess whether or not an application is administratively complete. However it is only a tool for bidders and evaluators**, the ultimate requirements are those contained in the Administrative Code**.

The bidder should identify any information that they wish to keep confidential.

Subsection 3.1 Developer Information (*14:8:6.5.(a).1*)

This section should include full business information, including contact names and addresses. This section should also include resumes of key employees and their experience in developing projects of similar scope. The bidder should also provide documentation to substantiate any claims that manufacturing services related to the project will be sourced from a New Jersey location.

Subsection 3.2 Project Description **(***14:8:6.5.(a).2)*

This section should include a full, complete and detailed description of the proposed project and any project alternatives. The bidder should include a project location map and site description and describe any current uses or conflicts of the identified areas. The bidder should detail the project capacity and provide an 8760 hourly estimate along with a wind study supporting such estimate.

Bidders should provide a detailed implementation and construction plan and schedule highlighting key milestone activities and completion dates during permitting, financing, design, equipment solicitation, manufacturing, shipping, assembly, in-field installation, testing, equipment commissioning, and service start-up.

Bidders must demonstrate that the technology is viable, cost competitive and suitable for use in New Jersey. Bidders should identify key equipment to be installed and describe the operating history of such equipment and provide evidence of intent from key vendors to supply such equipment and evidence of the financial strength of vendors. Per the rules, **bidders are permitted to replace or update equipment identified in the proposal with more technologically advanced equipment that is equal to or better than identified equipment, subject to Board approval and provided that there is no increase in OREC Price and no reduction in local content.**

Subsection 3.3 Financial Analysis **(***14:8:6.5.(a).3)*

This section will include a complete financial analysis of the proposed project and any alternate offers. The bidder should include pro forma income statements, balance sheets, and cash flow projections for the project and two years of audited financial statements from the bidder along with a business plan with documentation and support for projected project costs and revenues. The bidder should also show a levelized cost of energy (LCOE) over the 20-year lifespan of the project using a 7% discount rate and the project's P(50) output.

Subsection 3.4 Financing Plan **(***14:8:6.5. (a).4)*

The financing plan details how the bidder proposes to finance the project. The bidder should identify all sources of capital (both debt and equity) and provide evidence of commitments from financing parties. The plan shall specify if and under what conditions equity or other ownership interests in the project can be transferred to other parties and consideration involved. The developer shall notify the Board in writing of any changes in equity or other ownership interests within 30 days and such changes will be subject to Board approval.

Subsection 3.5 Documentation of Financial Incentives* (*14:8:6.5. (a).5)

The bidder should provide documentation to demonstrate that they have applied for all current eligible State and Federal grants, rebates, tax credits, and programs available to offset the cost of the project or provide tax advantages. These incentives should be reflected in the bidder's project pro forma and pricing proposal. Bidders must commit that any reduction or elimination of these benefit will not increase their OREC price and benefits greater than those projected will be passed on to ratepayers.

Subsection 3.6 Project Revenue Plan & Strategy* (*14:8:6.5. (a).6)

The Revenue Plan should include a forecast of energy and capacity output and market prices for the anticipated life of the project. The plan should not only forecast revenues but also identify strategies for maximizing those revenues. Revenues include all revenues from PJM markets as well as any other markets for project output.

Subsection 3.7 O&M Plan* (*14:8:6.5. (a).7)

The bidder should provide a plan for the operation and maintenance of the facility for the life of the project. The plan should demonstrate that the applicant (or its selected O&M contractor) has the financial capacity and technical expertise to perform all necessary upkeep and maintenance over the life of the project. It should detail maintenance protocols and identify risks to the infrastructure and how those risks shall be mitigated and include specific elements to ensure operational and cost control. The O&M plan should be integrated into the financial analysis of the project.

Subsection 3.8 Emissions Impact* (*14:8:6.5.(a).8)

The bidder should provide an assessment of the impact of the construction, operation and decommissioning of the project on emissions of carbon dioxide, sulfur dioxide, nitrous oxide, and particulate matter.

Subsection 3.9 Decommissioning Plan* (*14:8:6.5. (a).9)

The Decommissioning Plan should estimate an expected useful life for the proposed technology and provide a plan to decommission the project, including the estimated costs of decommissioning. The plan should provide for the necessary future funding as segregated decommissioning funds shall be required. The bidder must commit that decommissioning costs in excess of the anticipated costs stated in the application shall not be made up by ratepayers, suppliers, or providers.

Subsection 3.10 Permitting Plan (*14:8:6.5.(a).10)*

The Permitting Plan should list all State and Federal regulatory agency approvals, permits, or other authorizations required and provide a strategy – including a timeline - for acquiring those approvals. Bidders should provide copies of all submitted permit applications and any issued and approved permits for the project. Bidders should also supply the BPU with copies of project filings made to

any other regulatory, governmental administrative agency. This includes, but is not limited to, any compliance filings or any inquiries by these agencies.

Subsection 3.11 Cost Benefit Analysis **(***14:8:6.5. (a).11)*

The bidder must provide a Cost Benefit Analysis. The Analysis must demonstrate net economics and environmental benefits to the State. The Analysis must address and/or include the following methods and elements.
The analysis should be presented with sufficient documentation and explanation to allow for replication by a third party.

3.11.1 *Costs*

Costs of the project include the costs of OREC purchases over the 20-year contract period. These costs are offset by revenues received from the sale of energy, capacity and ancillary services, and by the avoided costs of all Class I RECs the New Jersey ratepayers would have to buy in the absence of the ORECs.

Bidders may provide their own assessment of such revenues but must, at a minimum, provide a standardized assessment of costs and revenues which uses the project's P (50) net output and the market price projections for energy, capacity, and Class I RECs provided by the BPU on the bidding website. Please see **Attachment Seven** for a description of how these inputs were created. Bidders may not include the value of potential decreases in market prices brought about by the operation of their project.

Project benefits include economic and environmental benefits.

3.11.2 *Economic Benefits*

Economic benefits refer to the in-state impacts on employment, income, wages, indirect business taxes, output, and value added in the State with an emphasis on in-state manufacturing. Direct, indirect and induced benefits will be considered. Bidders must assess such benefits using an established input-output model that captures New Jersey specific benefits. All assumptions used in the model regarding project costs and in-state spending must be documented with an emphasis on any firm commitments to locate parts of the supply chain within the State. The Analysis should include the elements identified in the Economic Development Plan (described herein).

Bidders should specify, by sector, the project's contribution to in-state employment (in terms of jobs per year), income, wages, taxes, output and gross state product. Bidders should distinguish between direct, indirect and induced effects. Bidders should highlight the effects of the project on manufacturing in the State and clearly separate out the impacts of project construction, operations, and decommissioning. Bidders should propose consequences if claimed benefits do not materialize. The economic impacts must be monetized – shown as a present value in nominal dollars discounted to 2019 at a weighted average cost of capital of 7%.

3.11.3 *Environmental Benefits*

Environmental benefits refer to the net environmental impact of the project, including but not limited to net emissions changes and impacts of the construction and operation of the project on avian and marine life and the seabed.

The Analysis should show the net reduction, in tons, of carbon dioxide, sulfur dioxide, nitrous oxide and particulate matter created by project construction, operation, and decommissioning. The Applicant may elect, but is not required, to place a dollar value on these net reductions and the BPU may do the same in its analysis.

The Analysis should include the elements identified in the Environmental Protection Plan (described herein) which assesses the net environmental impact from pre-construction activities through decommissioning including, but not limited to, climate change emissions, air pollution emissions, water use, water quality, avian, marine mammals, sea turtle, noise, aesthetics, tourism, navigation and endangered species and describes any measures taken to mitigate such impacts. Impacts should be quantified to the extent they are significant and it is possible to quantify them.

3.11.4 *Ratepayer Impact*

The Analysis should show the net ratepayer impact of the project for each year of OREC purchase. Impacts should be shown as an increase or decrease in the estimated monthly electric bill and be provided separately for residential and industrial customers.

Subsection 3.12 OREC Pricing Schedule **(***14:8:6.5.(a).12)*

The bidder should provide, for each bid alternative, an OREC pricing schedule, representing the calculation of the OREC price each year based on the total revenue requirements of the project over a 20-year period including the cost of equipment, financing, taxes, construction, operation, and maintenance, offset by any state or Federal tax or production credits and other subsidies or grants. The Bidder should separate out both interconnection and system upgrade costs. The bidder should make it clear if they are offering a fixed price or expect the system upgrade costs to be "trued-up" to actual interconnection costs. The schedule should be consistent with the project pro forma, commercial operation dates, and other project material. The OREC Price must be levelized for 20 years or escalated at a fixed rate over the 20 years; a frontloaded OREC Price is not acceptable. The bidder should explain any differences between the OREC price and the LCOE provided in Subsection 3.3.

Subsection 3.13 Project Timeline **(***14:8:6.5.(a).13)*

The bidder must provide a timeline for the permitting, licensing and construction of the project. The bidder should specify the expected time requirements in the aggregate from start to finish as well as the time required to accomplish each specific activity related to project design, resource monitoring, impact studies, permitting, construction, and decommissioning activities with associated milestones delineated for each category of activity.

Subsection 3.14 Interconnection Plan* (14:8:6.5. (a).14)***

The bidder should provide a plan for interconnection, including the point of interconnection and estimate of direct interconnection and system upgrade costs. Costs should be reflective of costs in the bidder's proposed OREC price. The bidder should document tasks required for interconnection as well as land acquisition requirements. The plan should address how the proposed project will address and mitigate load constraints in the distribution and transmission systems.

Subsection 3.15 Environmental Protection Plan* (14:8:6.5. (a).10) and* (***14:8:6.5. (a).11)***

An Environmental Protection Plan is requested for the project that shall describe the environmental impacts, benefits and mitigation measures as well as the net environmental effects of the project, consistent with the requirements specified at N.J.A.C 14:8-6.5 (11) and in compliance with Federal and State laws. The Environmental Protection Plan shall demonstrate how the bidder will ensure the stewardship and protection of State and Federal lands, waters and associated natural resources.

The **Environmental Protection Plan** shall also summarize the bidder's plans for acquiring all project permits as specified in N.J.A.C. 14:8-6.5 (10). The intent here is not to create an additional set of requirements but rather to show how the applicant plans to ensure the environmental protection measures required under N.J.A.C 14:8-6.5 are fully realized.

The **Environmental Protection Plan** will thus accomplish three specific tasks. The first is describing all environmental impacts - including but not limited to impacts on emissions, seabed conditions, marine and avian species - of the construction, operation and decommissioning of the project. The second task is to detail any measures the bidder proposes to mitigate the identified impacts. The third task is summarizing the bidder's plans for acquiring all necessary project permits.

For reference, the rules under N.J.A.C 14:8-6.5 (11) requires that applicants provide an analysis of the anticipated environmental benefits and environmental impacts of the project throughout its lifetime:

1. Each project must document all **associated impacts from pre-construction activities through decommissioning** including, but not limited to, environmental, water use, water quality, avian, marine mammals, sea turtle, noise, aesthetics, tourism, navigation and **endangered species**. This includes sea-bed disruption of marine life, morbidity or mortality among avian, mammal or benthic populations, emissions of combustion by-products to the air or oil or other toxic releases to the ocean, or solid waste generation.

2. Applicants shall specifically describe how their activities will be **coordinated with the New Jersey Department of Environmental Protection (NJDEP) Ecological Baseline Studies**, and indicate how each resource issue, if impacted, will be addressed.

3. The applicant shall provide information regarding the **direct emissions impacts of the project,** including carbon dioxide, sulfur dioxide, particulate emissions, as well as other relevant environmental impacts, such as impacts on the marine environment.

4. The applicant shall provide an **assessment of environmental impacts** from the project compared to other similar Class I renewable energy projects.

5. **Environmental impacts (direct and comparative) must be quantified** to the extent they are significant and it is possible to quantify them.

6. The **comparative environmental impacts** shall be monetized, to the extent possible, for evaluation as part of the overall cost-benefit analysis.

The **Environmental Protection Plan** shall also show the anticipated carbon dioxide emissions impact of the project and its contribution to the State's greenhouse gas reduction goals.

In addition, the Environmental Protection Plan shall address the project's effect on finfish and shellfish, as well as commercial and recreational fisheries off the coast of New Jersey. Further, the applicant shall ensure that all activities are consistent with the NJDEP Baseline Ecological Studies, and if there will be impacts to a resource, the applicant shall indicate in detail how those impacts will be mitigated. Moreover, in addition to the direct emissions information required in (3) above, the applicant shall also include the project's direct emissions impacts of Nitrogen Oxides (NOx). Finally, notwithstanding the requirement for an applicant to provide an assessment of direct impacts, cumulative impacts to natural resources shall also be assessed.

An award to build an OSW facility is contingent upon the successful entity obtaining all required local, State and/or Federal permits and/or approvals. Consistent with the rule at N.J.A.C. 14:8-6.5 (10) a list of all **State and Federal environmental regulatory agency approvals, permits, or other authorizations** required pursuant to State and Federal law for the offshore wind project should be provided, as well as copies of all submitted permit applications and any issued approvals and permits for the offshore wind project.

Applicants shall ensure that the protection of environmental resources is a priority when planning an offshore wind project. During the development of the construction and operations plan, successful bidders must ensure the stewardship and protection of State and Federal lands, waters, and associated natural resources, including fisheries and marine mammals.

For reference, the rules under N.J.A.C 14:8-6.5 (10) requests that applicants provide the following:

1. Each applicant shall identify all local, State and/or Federal permits and/or approvals required to build and operate the project and the expected time to obtain such permits and/or approvals. Developers shall provide the Board with copies of each permit or approval within 14 days of receipt by the developer. This is a continuing obligation upon the developer and shall serve as a condition of any OREC award.

2. Applicants shall identify the nature of its ocean lease and land ownership requirements for all aspects of the project including all required interconnection areas.

3. Progress must be demonstrated in securing leases and land required, and applicants shall propose a plan for accomplishing remaining steps toward acquiring leases or land ownership. The type and number of entities securing leases or owning land must be indicated.

4. Applicants shall identify each appropriate State or Federal agencies they will be contacting for land acquisition issues and provide the Board with a summary of the required arrangements.

Applicants are required to demonstrate adequate financial resources to acquire any land or leases needed to undertake this project.

Subsection 3.16 Economic Development Plan* (14:8:6.5. (a).11)***

The Economic Development Plan should provide detail and a narrative description of the applicant's plan for investments in infrastructure, supply chain, workforce development, and other offshore wind cluster-building programs, and the associated economic benefits for the State. The intent here is not to create an additional set of requirements, but to provide an opportunity for the applicant to provide context for its cost-benefit analysis, outline other expected economic development impacts not captured in the cost-benefit analysis (i.e., impacts that are difficult to quantify), and show how the developer and proposed project plan can attain and deliver the economic benefits described in the application as required under N.J.A.C 14:8-6.5.

The Economic Development Plan should thus reflect and summarize the economic impacts of the proposed project over 20 years as noted in the project's Cost-Benefit Analysis with a focus on investments and impacts in five key areas of economic development: (a) blue-collar workforce development, (b) white-collar workforce development, (c) marshaling ports, (d) manufacturing ports, and (e) O&M ports. The Plan should clearly differentiate what are the direct, indirect, and induced impacts on both jobs and output, and provide rationale for supporting assumptions. Consistent with N.J.A.C 14:8-6.5 (11), The Economic Development Plan should include details of the location, type and salary of employment opportunities to be created by the project with job totals expressed as full-time equivalent positions assuming 1,820 hours per year.

For reference, the Cost Benefit Analysis under N.J.A.C 14:8-6.5.(a).(11) requests that net economic benefits for the State be calculated to include at a minimum:

In-State impacts or benefits that need to be included in the cost-benefit analysis include, but are not limited to:

1. Employment;
2. Wages;
3. Indirect business taxes; and

4. Output, with a "particular emphasis" on manufacturing employment. Output refers to the sales of sectors or industries that would be supplying the offshore wind project with materials (such as turbines, steel and cement for support structures, wire for transmission cables) and services (such as construction and installation services, as well as engineering, legal, finance, and other professional services);

In addition, The Economic Development Plan can include descriptions of other programs, initiatives, or support that the applicant is committing to, but which may be difficult to quantify in the Cost Benefit Analysis. Examples of these sorts of efforts could include:

1. Bringing offshore wind R&D into the State (private or with universities)
2. Catalyzing an offshore wind cluster in New Jersey
3. Actively attracting other supply chain companies to locate in NJ (or supporting State government in these efforts)
4. Participating in / sponsor offshore wind "ecosystem building" activities (e.g., conferences, supplier networking, start-up company mentorship)
5. Partnering with local universities, community colleges, or K-12 education
6. Participation in workforce development programs
7. Providing investment or technical assistance in industry infrastructure development
8. Other corporate responsibility commitments

The Economic Development Plan shall also propose consequences if claimed benefits do not materialize, and the employment impact may become conditions of any OREC award.

Applicants shall also provide information on any State grants or other subsidies from the New Jersey Economic Development Authority or other agencies associated with the proposed wind project that was included as part of the project cost-benefit analysis.

Subsection 3.17 Bid Deposit **(***14:8:6.5. (a).15)*

The bidder should provide a deposit of $150,000 to cover the expenses incurred in evaluating the bid. The bid fee covers one base and two alternative offers. Additional offers can be evaluated at the cost of $25,000 per offer.

Subsection 3.18 Application Form

In addition, the bidder should submit a completed Offshore Wind Application Form for each offer variant. The form, attached here and also provided on the bid website, allows bidders to provide one base and one alternative offer. Bidders can download additional copies of the form to provide additional offers. The form is divided into three sections.

3.18.1 Bid Summary

The Bid Summary tab provides an overview of the offers. Bidders should specify, for each alternative, the nameplate capacity of the project, turbine type, P(50) net capacity factor and location information as well as contact information. Bidders are also asked to provide several points of data from their Cost/Benefit Analysis. Economic impacts should be provided as net present values discounted at 7% to the start of 2019. Emissions Reductions should be provided in tons of net reductions for each pollutant. The levelized OREC prices are calculated by the form on separate sheets.

3.18.2 Base/Alt Offer

The bidder should fill out one sheet for each bid variant proposed. The bidder can input the proposed project start year and month. The bidder will then input the proposed OREC price for each calendar year of operation. The sheet will credit the project with 20 full years of project operation. Bidders are asked to provide the "All-in OREC Price" which is the final, ultimate price that ratepayers will pay per OREC in a given year. If the bidder is electing to have their system upgrade cost estimate trued up to actual costs, they should indicate this on the sheet and **show separately** their "System Upgrade" costs. Note that even if the bidder is requesting this option, their All-in OREC Price should be inclusive of these System Upgrade costs.

In addition, bidders should provide, for each of the 20 years during which the project will sell ORECs to ratepayers, estimated market revenues from the project. These should reflect all revenues earned by the project during that time. For years in which the project is only selling ORECS for a portion of the year the market revenues should be shown only for the portion of the year that the State will purchase ORECs. With these inputs, the sheets will automatically calculate levelized prices per MWh for the all-in cost, system upgrades and market revenues.

3.18.3 Commitments

This sheet lists the commitments that each successful bidder is expected to make based on the N.J.A.C. If a bidder is unable to make any of these commitments they should provide a full explanation.

Subsection 3.19 Additional Information

To the extent not covered in the above items, the bidder should provide any information it believes would aid the BPU in assessing their proposed project.

Section 4.0 CRITERIA FOR EVALUATION OF APPLICATIONS

To be eligible to win a contract for the sale of ORECs, an Applicant must:

1. Submit an Application found to be complete by the BPU;
2. Submit an OREC Purchase Price offer that meets all the requirements of the Act and NJAC;
3. Demonstrate a positive net benefit through its cost-benefit analysis reflecting in-state economic and environmental benefits;
4. Have a reasonable ratepayer impact in the eyes of the BPU; and
5. Demonstrate the project is viable – it is likely to come on-line on time and on budget.

Once the bid is received, BPU staff will notify the applicant within 30 days of the submission if the application is administratively complete or is deficient. If the application is deficient, the applicant will be advised which items must be remedied to correct the deficiency or deficiencies.
Once the application is deemed complete, the BPU has 180 days to approve, conditionally approve, or deny the application. The 180-day period will not commence until all deficiencies have been remedied and the filing is deemed by Board staff to be administratively complete.

The Applications will be evaluated by six criteria which reflect the goals of New Jersey's OSW policy. The goals are: 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. The six criteria are:

1. **OREC Purchase Price -** This includes meeting the requirement for a fixed, pay-for-performance price as well as the implied subsidy above market prices.

2. **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.

3. **Ratepayer impacts** – This includes the average increase in residential and commercial customer bills. The Board will also consider the timing of any rate impacts.

4. **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.

5. **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.

6. **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.

Ranking and weighting of the six criteria by the BPU will reflect the goals of the solicitation especially as stated in the Governor's Executive Order No. 8. Those goals include: (a) contributing to a stronger New Jersey economy by anchoring an offshore wind supply chain in the State; (b) combating global climate change to protect New Jersey and also to protect New Jersey's natural resources; (c) providing added reliability for the transmission network and transmission rate relief for ratepayers and (d) achieving all of this at the lowest reasonable cost and risk to New Jersey ratepayers.

While OREC Prices may be increased at a fixed pace year-by-year, Projects will be evaluated on their levelized price per MWh. As already noted, the BPU also may reflect in its evaluation the possible benefit of having a diversity of Project sponsors, technology types, and wind resource locations.

The BPU will also consider in its evaluation the Applicant's commitment to storage capability for its Project.

Attachment One: Offshore Wind Application Form

New Jersey OREC Application Form for Qualified Offshore Wind Projects

Project Name		
Primary Sponsor		
Primary Contact		
Name		
Phone 1		
Phone 2		
E-mail		
Address		
Offer overview		
	Base	*Alt1*
Project Nameplate Capacity (MW)		
Turbine Manufacturer and Type		
P(50) Net Capacity Factor		
Site Lease Location		
Point of Interconnection		
Storage? (Y/N)		
Total Capital Costs ($MM USD)		
Economic Impact ($ Nominal NPV @7% Discount Rate)		
State Gross Product		
Output		
Wages		
Tax receipts		
Jobs/Year from Construction (FTEs @1,820 hrs/FTE)		
Jobs/Year from Operation and Maintenance (FTEs @1,820 hrs/FTE)		
Net Reduction in Emissions (tons) at P(50) Net capacity factor over project life		
CO2		
SO2		
NOx		
Pm		
First Year OREC Purchase Price ($/MWh)		
Nominal Levelized OREC Purchase Price ($/MWh)	$210.11	$185.00
Nominal Levelized OREC Purchase Price ($/MWh) Net of Market Revenues	$138.41	$113.30
Nominal Levelized Cost of Energy ($/MWh)		
Requesting True-up for System Upgrade Costs? (Y/N)		
Annual OREC Allowance (ORECs/year)		
Projected Ratepayer Impact (% Increase (decrease) in average monthly bill)		

Application Form for Qualified Offshore Wind Projects

Offer	Alt1
MW	200
Project COD Start Year	2021
Project COD Start Month	6
Project P(50) Capacity Factor	45%
Discount Rate	7.0%

Requesting True-up of System-upgrade costs? N

Year	All-in OREC Price ($/OREC)	System Upgrade portion of OREC Cost ($/OREC)	Projected Output (at P50)	Total OREC Payment	System Upgrade Portion of payment	Total Market Revenues	Net Cost
2019	$ -	[redacted]	-	$ -	$ -	$ -	$ -
2020	$ -		-	$ -	$ -	$ -	$ -
2021	$ 185.00		462,240	$ 85,514,400	$ -	$ 55,000,000	$ 30,514,400
2022	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2023	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2024	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2025	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2026	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2027	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2028	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2029	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2030	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2031	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2032	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2033	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2034	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2035	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2036	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2037	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2038	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2039	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2040	$ 185.00		788,400	$ 145,854,000	$ -	$ 55,000,000	$ 90,854,000
2041	$ 185.00		326,160	$ 60,339,600	$ -	$ -	$ 60,339,600
2042	$ -		-	$ -	$ -	$ -	$ -
2043	$ -		-	$ -	$ -	$ -	$ -
NPV			7,097,799	$1,313,092,853	$0	$508,927,228	$804,165,625
Annuity			(669,982)	($123,946,676)	$0	($48,039,130)	($75,907,546)

Levelized OREC Price ($/MWh)	***$185.00***
Transmission Portion ($/MWh)	***$0.00***
Market Revenues ($/MWh)	***$71.70***
Net Cost ($/MWh)	***$113.30***

Application Form for Qualified Offshore Wind Projects

Offer	Base
MW	200
Project COD Start Year	2021
Project COD Start Month	6
Project P(50) Capacity Factor	45%
Discount Rate	7.0%

Requesting True-up of System-upgrade costs? Y

Year	All-in OREC Price ($/OREC)	System Upgrade portion of OREC Cost ($/OREC)	Projected Output (at P50)	Total OREC Payment	System Upgrade Portion of payment	Total Market Revenues	Net Cost
2019	$ -	$ -	-	$ -	$ -	$ -	$ -
2020	$ -	$ -	-	$ -	$ -	$ -	$ -
2021	$ 165.00	$ 5.00	462,240	$ 76,269,600	$ 2,311,200	$ 55,000,000	$ 21,269,600
2022	$ 169.95	$ 5.00	788,400	$ 133,988,580	$ 3,942,000	$ 55,000,000	$ 78,988,580
2023	$ 175.05	$ 5.00	788,400	$ 138,008,237	$ 3,942,000	$ 55,000,000	$ 83,008,237
2024	$ 180.30	$ 5.00	788,400	$ 142,148,485	$ 3,942,000	$ 55,000,000	$ 87,148,485
2025	$ 185.71	$ 5.00	788,400	$ 146,412,939	$ 3,942,000	$ 55,000,000	$ 91,412,939
2026	$ 191.28	$ 5.00	788,400	$ 150,805,327	$ 3,942,000	$ 55,000,000	$ 95,805,327
2027	$ 197.02	$ 5.00	788,400	$ 155,329,487	$ 3,942,000	$ 55,000,000	$ 100,329,487
2028	$ 202.93	$ 5.00	788,400	$ 159,989,372	$ 3,942,000	$ 55,000,000	$ 104,989,372
2029	$ 209.02	$ 5.00	788,400	$ 164,789,053	$ 3,942,000	$ 55,000,000	$ 109,789,053
2030	$ 215.29	$ -	788,400	$ 169,732,724	$ -	$ 55,000,000	$ 114,732,724
2031	$ 221.75	$ -	788,400	$ 174,824,706	$ -	$ 55,000,000	$ 119,824,706
2032	$ 228.40	$ -	788,400	$ 180,069,447	$ -	$ 55,000,000	$ 125,069,447
2033	$ 235.25	$ -	788,400	$ 185,471,531	$ -	$ 55,000,000	$ 130,471,531
2034	$ 242.31	$ -	788,400	$ 191,035,677	$ -	$ 55,000,000	$ 136,035,677
2035	$ 249.58	$ -	788,400	$ 196,766,747	$ -	$ 55,000,000	$ 141,766,747
2036	$ 257.06	$ -	788,400	$ 202,669,749	$ -	$ 55,000,000	$ 147,669,749
2037	$ 264.78	$ -	788,400	$ 208,749,842	$ -	$ 55,000,000	$ 153,749,842
2038	$ 272.72	$ -	788,400	$ 215,012,337	$ -	$ 55,000,000	$ 160,012,337
2039	$ 280.90	$ -	788,400	$ 221,462,707	$ -	$ 55,000,000	$ 166,462,707
2040	$ 289.33	$ -	788,400	$ 228,106,588	$ -	$ 55,000,000	$ 173,106,588
2041	$ 298.01	$ -	326,160	$ 97,198,405	$ -	$ -	$ 97,198,405
2042	$ -	$ -	-	$ -	$ -	$ -	$ -
2043	$ -	$ -	-	$ -	$ -	$ -	$ -
NPV			7,097,799	$1,491,345,751	$21,101,348	$508,927,228	$982,418,523
Annuity			(669,982)	($140,772,489)	($1,991,818)	($48,039,130)	($92,733,359)

Levelized OREC Price ($/MWh)	***$210.11***
Transmission Portion ($/MWh)	***$2.97***
Market Revenues ($/MWh)	***$71.70***
Net Cost ($/MWh)	***$138.41***

New Jersey OREC Application Form for Qualified Offshore Wind Projects - Commitments

The applicant makes the following commitments, should they agree to become a Qualified Offshore Wind Project

For the duration of the project, the Applicant will;

- Notify the Board, within 30 days, of the departure of any key employee
- Submit the expertise and qualifications for any new key employee for approval by the Board
- Seek Board approval for any changes to the organizational structure of key employee positions and the level of expertise and qualifications of those key employees
- Obtain prior Board approval for an entity to assume a controlling interest in the proposed project or the approved qualified offshore wind project

The applicant will ensure that the project is compliant with all applicable Federal and State statutes and regulations and municipal code requirements, and will commitment to provide proof of all such compliance on an ongoing basis

The applicant will commit that the cost difference in the event that changes in the project reduce or eliminate tax benefits, or tax benefits do not materialize for any reason including changes in tax laws, will not be made up by ratepayers, suppliers, or providers.

The applicants commit to pass along tax credits or other governmental benefits to ratepayers that are greater than projected.

The applicant will notify the Board, in writing, of any changes to equity or other ownership interests within 30 days of such changes and such changes will be subject to BPU approval

The applicant will provide audited financial statements to the Board on a quarterly and annual basis.

The applicant will provide the Board with copies of all permits and approvals within 14 days of receipt.

The applicant commits that any decommissioning costs in excess of the anticipated costs stated in the application shall not be made up by ratepayers, suppliers, or providers.

If the applicant cannot make any of the above certifications, they should provide an explanation below.

Signature

_____

Print Name and Title

_____

Date

Attachment Two: Project Completeness Checklist

New Jersey OREC Application Checklist

This Checklist is meant to serve as an overview of the requirements contained in NJAC 14: 8-6.5 and will serve as a tool for judging bid completeness. Bidders will ultimately be judged against the NJAC requirements and bidders are encouraged to review those requirements to confirm their ultimate compliance

Section		Complete?
1 - Developer Information *14:8:6.5. (a).1*	Developer information, including; name, primary contact person, website, telephone numbers, e-mail address, and street address	No
	List of all key employees, include resumes of employees that have an identifiable track record in construction and operation of power plants of similar size and scope	No
	Description of work done by key employees in developing projects of similar scope. If the work described was not performed by the entire team, the applicant must delineate the experience or work performed by key employees	No
	Disclosure of any prior business bankruptcies, defaults, disbarments, investigations, indictments, or other actions against either the applicant, its parent company, affiliates, subsidiaries, or any key employees	No
	Documentation to substantiate any claims that manufacturing services related to the qualified offshore wind project will be sourced from a New Jersey location	No
2- Project Description *14:8:6.5. (a).2*	Detailed description of the project including; total installed capacity in megawatts, the type, size, and number of proposed turbines and foundations; the history of the installed turbines and foundations; the configuration of turbine array, location of cable and balance of system equipment, and a description of points of interconnection	No
	Detailed implementation plan and schedule	No
	A letter of intent or memorandum of understanding from the turbine manufacturer/supplier that states their ability to manufacture and deliver all components within the targeted schedule	No
	A declaration from the foundation manufacturer/supplier that states their ability to manufacture and deliver all foundation components within the targeted schedule	No
	A declaration from the undersea cable manufacturer/supplier that states their ability to manufacture and deliver all undersea cable components within the targeted schedule	No
	A letter of intent or memorandum of understanding from the proposed engineering, procurement, and construction (EPC), balance of plant (BOP) contractor, and/or key construction contractors or vendors	No
	If turbines are not certified, provide a detailed certification plan that is underwritten by a certifying body	No
	Description of the areas used for all aspects of the project including the construction staging areas, and port usage	No
	Map with the location of the site(s) clearly marked by longitude and latitude and the Federal Bureau of Ocean Energy Management, Regulation and Enforcement block numbers. Describe any current uses, conflicts, or characteristics of th ocean and land areas identified	No
	Description of major types of equipment that have been selected to be installed, including specifications, warranties, commercial operating history and the ability of the equipment to work in New Jersey's offshore and near shore climates	No
	Description of construction plans in detail, identifying proposed subcontractors, with evidence of the capability of performing necessary tasks, as well as proposed time frames for completion of all necessary tasks	No
	List of all applicable Federal and State statutes and regulations and municipal code requirements, with the names of the Federal, State and local agencies to contact for compliance	No
	8760 output projection, accounting for losses	No
	Wind resource and energy assessment from a wind energy consultant for the exact manufacturer, model, and specifications of turbines selected for the project. Include the professional qualifications for the wind energy consultant	No
	Estimation of the amount of electrical capacity the project will make available, calculated consistent with PJM rules and including estimate of coincidence between time of generation and peak electricity demand.	No
	Estimation of the level of generation that their proposed project will be able to provide over the life of the equipment	No
3- Financial Analysis *14:8:6.5. (a).3*	Pro forma income statements, including all tax credits or other subsidies relied upon	No
	Balance sheets	No
	Cash flow projections for the proposed OREC period, including the internal rate of return	No
	Business plan with fully documented estimates of all associated and relied upon revenue and expense projections	No
	Two years of audited financial statements, of the applicant and/or parent company	No
	Audited financial statements for two years for key projects suppliers	No
4- Financing Plan *14:8:6.5. (a).4*	Detailed Financial Plan showing all sources of capital including, equity, long and short term debt, and other sources including the names, functions and fees of all financial and legal advisors. Description of under what conditions equity o other ownership interests in the project can be transferred to other parties and consideration involved.	No
	Letter of intent to offer credit from credible financiers; a letter of commitment from equity investors; and/or a guarantee from an investment grade party	No
5- Documentation of Financial Incentives *14:8:6.5. (a).5*	Documentation to demonstrate that the developer has applied for all current eligible State and Federal grants, rebates, tax credits, and programs available to offset the cost of the project or provide tax advantages	No
6- Project Revenue Plan & Strategy *14:8:6.5. (a).6*	Project revenue plan which forecasts output and revenues over the anticipated life of the project; including a forecast of electricity revenues from the sale of energy and capacity, revenues anticipated by the sale of any ORECs, Renewable Energy Certificates (RECs), air emission credits or offsets, or any tradable environmental attributes created by the project.	No
	Description of financial expectations and marketing strategies for securing revenues	No
7 - O&M Plan *14:8:6.5. (a).7*	Description of routine, intermittent and emergency protocols.	No
	Demonstration that the applicant has the financial capacity and technical expertise to perform all necessary upkeep/maintenance over the life of the project	No
	Identification of the primary risks to the built infrastructure and description of how the risks shall be mitigated	No
	Description of construction and operational cost controls	No
	Proof of insurance	No
8- Emissions Impact *14:8:6.5. (a).8*	Description of the impact of the construction, operation and decommissioning of the project on emission of carbon dioxide, sulfur dioxide, nitrous oxide, and particulate matter	No
9- Decommissioning Plan *14:8:6.5. (a).9*	Project decommissioning plan for the technology and installation area proposed including expected useful life for proposed equipment and anticipated cost of decommissioning the project based on applicable and/or anticipated regulatory and engineering requirements as well as provisions for financial assurances for decommissioning.	No
10 - Permitting Plan *14:8:6.5. (a).10*	A list of all State and Federal regulatory approvals, permits or other authorizations need for the construction and operation of the project and copies of submitted applications or issued permits and approvals.	No
	Demonstration that project is in the PJM queue or eligible to be in the PJM queue	No
	Identification of land and ocean lease ownership requirements.	No
11- Cost Benefit Analysis *14:8:6.5. (a).11*	Analysis of positive and negative impacts on New Jersey ratepayers, including all supporting work papers and material sufficient for a third party to reproduce any analyses provided.An applicants cost-benefit analysis must provide three types of information: Net Economic Impacts, Net Environmental Effects and Rate Payer Impacts over the life of the project.	No
Economic Impacts	A detailed input-output analysis of the impact of the project on income, employment, wages, indirect business taxes, and output in the State	No
	Ratepayer net costs with explicit listing of foundations, assumptions and conditions	No
	Detailed information, including location, type or occupation, and salary for assumed employment impacts within New Jersey. Support for claimed employment impacts must be provided	No

	Proposed consequences if claimed economic benefits do not materialize	No
	Description of any State grants or other subsidies from the New Jersey Economic Development Authority or other agencies associated with the proposed wind project	No
Environmental Impacts	An analysis of the anticipated environmental benefits and environmental impacts of the project including, but not limited to, environmental, water use, water quality, avian, marine mammals, sea turtle, noise, aesthetics, tourism, navigatio and endangered species. This includes sea-bed disruption of marine life, morbidity or mortality among avian, mammal or benthic populations, emissions of combustion by-products to the air or oil or other toxic releases to the ocean, or solid waste generation.	No
	Assessment of direct emissions impacts of the project of emissions of carbon dioxide, sulfur dioxide, nitrous oxide and particulate emissions.	No
	Description of how activities will be coordinated with the New Jersey Department of Environmental Protection (NJDEP) Ecological Baseline Studies, how each resource issue, if impacted, will be addressed	No
	Comparison of environmental impact to similar Class I renewable projects	No
	Environmental Protection Plan including an analysis of anticipated environmental benefits and environmental impacts of the project as well as a plan for coordination with the NJDEP Ecological Baseline Studies and how any and all impa will be addressed.	No
Ratepayer Impact	Calculation of net costs to ratepayers with explicit listing of foundations, assumptions and conditions	No
12 - OREC Pricing Schedule 14:8:6.5. (a).12	OREC Price Per year which specifies total equipment, construction, operation, and maintenance costs of the project; interconnection and system upgrade costs Tax credits, subsidies, or grants the project will qualify for, Debt service costs and return on equity, taxes and depreciation. Include the assumed capacity factor and the number of ORECs to be produced by the project. The OREC Pricing Schedule should include a levelized OREC Price for the 20 year term	No
13- Project Timeline *14:8:6.5. (a).13*	Timeline for the permitting, licensing and construction of the project and plan for acquiring all relevant permits. Specify the time required to accomplish each specific activity related to project design, resource monitoring, impact studies, permitting, construction, and decommissioning activities with associated milestones delineated for each category of activity	No
14- Interconnection Plan *14:8:6.5. (a).14*	List of tasks required and issues associated with electrical interconnection, including the distance between the project and a suitable point to interconnect with the electrical grid	No
	Location of transmission lines and all points of interconnection to the PJM system serving New Jersey	No
	Costs associated with network upgrades that flow from the project	No
	Description of how the proposed project will address and mitigate load constraints in the electric distribution and PJM transmission system	No
	Land acquisition requirements, new equipment to be installed, upgrades to existing equipment required, and any feasibility studies required and the time frame for review must be ident	No
15- Environmental Protection Plan	Plan which summarizes permitting strategy, economic impacts and proposed mitigation measures.	No
16- Economic Development Plan	Plan which summarizes the results and analysis of the economic impacts from the Cost-Benefit Analysis with a focus on job impacts by type of worker and nature of work. Provide any proposed measures to ensure that estimated job impacts are actually achieved.	No
17- Deposit *14:8:6.5. (a).15*	Bid Fee of $150,000	No
18- Bid Application Form	An application form specific to each bid summarizing the project, bid proposal and OREC Price	No

Attachment Three: Executive Order Number 8

EXECUTIVE ORDER NO. 8

WHEREAS, New Jersey enjoys an abundance of invaluable natural resources, including a magnificent coastline and some of the best offshore wind resources in the world; and

WHEREAS, in order to combat the threat of global climate change and mitigate the accompanying risks to New Jersey and its residents, New Jersey must be a leader in the development of sustainable, renewable energy sources; and

WHEREAS, because of our location and resources, New Jersey is uniquely well-suited for the development of renewable offshore wind energy; and

WHEREAS, in the early 2000s, New Jersey emerged as a leader in developing offshore wind and attracting associated assembly and manufacturing facilities, but since that time has seen stagnant growth in the offshore wind sector; and

WHEREAS, despite the enactment in 2010 of the Offshore Wind Economic Development Act (“OWEDA”), little progress has been made towards OWEDA’s goals or towards offshore wind development generally; and

WHEREAS, offshore wind is an abundant, renewable and sustainable form of energy that will allow New Jersey to shift away from outdated energy sources, which have polluted our natural environment for decades; and

WHEREAS, offshore wind generation also will provide reliability and relief for the regional electric grid, which is the largest, most congested and most costly in the nation; and

WHEREAS, by setting an aggressive offshore wind energy production goal, New Jersey has the potential to power over 1.5 million homes with clean, renewable offshore wind energy; and

WHEREAS, an aggressive offshore wind energy production goal will also result in the various portions of the offshore wind development supply chain being located in New Jersey, including manufacturing,

assembly and construction of the component parts of offshore wind turbines, which will contribute to a stronger New Jersey economy;

NOW, THEREFORE, I PHILIP D. MURPHY, Governor of the State of New Jersey, by virtue of the authority vested in me by the Constitution and the Statutes of this State, do hereby ORDER and DIRECT:

1. The Board of Public Utilities ("BPU"), the Department of Environmental Protection ("DEP"), and any other New Jersey state agencies with responsibilities arising under OWEDA shall take all necessary actions to implement OWEDA in order to promote and realize the development of wind energy off the coast of New Jersey to meet a goal of 3,500 megawatts of offshore wind energy generation by the year 2030.

2. In order to achieve this goal, the President of the BPU shall, with the assistance of the Commissioner of the DEP, develop an Offshore Wind Strategic Plan. In creating the Offshore Wind Strategic Plan, the President and the Commissioner shall engage key stakeholders and solicit input from the public. The Offshore Wind Strategic Plan shall focus on critical components of offshore wind development, including achieving scale to reduce costs, job growth, supply-chain businesses, workforce development, data collection, and appropriate siting of facilities, and shall ensure that natural resources are protected throughout the development and operational stages of offshore wind energy production.

3. The BPU shall implement OWEDA's Offshore Renewable Energy Certificate ("OREC") program through the approval of OREC Pricing Plans as outlined in OWEDA.

4. The Department of the Treasury shall work with the BPU and the DEP to ensure that necessary resources and expertise, including an offshore wind economic consultant, are available to advise and assist in the implementation of OWEDA and this Order.

5. Following the establishment of an OREC Pricing Plan application process consistent with this Order, the BPU shall issue a solicitation calling for proposed offshore wind projects for the generation of 1,100 megawatts of electric power, the nation's largest such solicitation to date.

6. Within sixty (60) days of the date of this Order, BPU shall initiate the administrative rulemaking process to establish the OREC Funding Mechanism, through which rules and regulations shall describe the flow of payments for ORECs from suppliers to offshore wind developers. The OREC Funding Mechanism regulations shall also define the administrative steps to ensure, verify and account for OREC payments to offshore wind developers.

7. The President of the BPU shall initiate discussions with sister states in the Northeast and Mid-Atlantic region to explore the potential benefits of a regional collaboration on offshore wind and other opportunities to combat climate change.

8. Should any part of this Order be declared to be invalid or unenforceable, or should the enforcement of or compliance with any part of this Order be suspended, restrained or barred by the final judgment of a court of competent jurisdiction, the remainder of this Order shall remain in full force and effect.

9. This Order shall take effect immediately.

GIVEN, under my hand and seal this 31th day of January, Two Thousand and Eighteen, and of the Independence of the United States, the Two Hundred and Forty-Second.

[seal]

/s/ Philip D. Murphy

Governor

Attest:

/s/ Matthew J. Platkin

Chief Counsel to the Governor

Attachment Four: Application Requirements in New Jersey Administrative Code

N.J.A.C. 14:8-6

“Qualified Offshore Wind Projects”

§ 14:8-6.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions that apply to this subchapter can be found at N.J.A.C. 14:3-1.1 and 14:4-1.2.

"Controlling interest" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of the company, whether through the ownership of voting securities, by contract, proxy, or otherwise.

"Key employee" means any individual employed by the applicant in a supervisory capacity or empowered to make discretionary decisions with respect to the project.

"Offshore wind energy" means electric energy produced by a qualified offshore wind project.

"Offshore wind renewable energy certificate" or "OREC" means a certificate issued by the Board or its designee, representing the environmental attributes of one megawatt hour of electric generation from a qualified offshore wind project.

"Qualified offshore wind project" means a wind turbine electric generation facility in the Atlantic Ocean and connected to the electrical 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).

"Wind energy zone" means property located in the South Jersey Port District established pursuant to the South Jersey Port Corporation Act, N.J.S.A. 12:11A-1 et seq., or as may be amended.

§ 14:8-6.2 Offshore wind renewable portfolio standards requirements

(a) Each supplier/provider that sells electricity to retail customers in New Jersey shall ensure that the electricity it sells each reporting year in New Jersey includes at least the minimum percentage of offshore wind (OSW) energy required for that energy year as set by the Board following the approval of a qualified offshore wind project.

(b) The total OSW energy requirement for an energy year shall reflect the projected OREC production of qualified OSW projects, for the period covered by the granted ORECs, from the commercial operation start date of the qualified OSW projects.

(c) OREC obligations are a component of Class I renewable energy requirements, and satisfaction of OREC obligations shall be counted toward Class I renewable energy requirements.

(d) A Statewide OREC target will be determined by the Board based on projected OSW production. The total will be allocated among all suppliers/providers in proportion to their retail sales.

(e) A supplier/provider shall meet the requirements for OSW energy generation through:

1. Retirement of offshore wind renewable energy certificates through a renewable energy trading program approved by the Board; or

2. Submittal of offshore wind alternative compliance payments.

(f) Any offshore wind alternative compliance payments collected shall be refunded to the ratepayers.

§ 14:8-6.3 Application process

(a) An entity seeking to receive ORECs in connection with an offshore wind project shall submit an application to the Board for approval as a qualified offshore wind project. The application must meet the requirements set forth in this section, as well as all applicable requirements of this chapter, and of other applicable State and Federal laws.

(b) The Board will announce the open and close dates for all application periods, which shall be set at the Board's discretion.

(c) The Board shall approve, conditionally approve, or deny the application within 180 days of the receipt of a completed application. The parties may consent to an extension beyond 180 days.

(d) The applicant shall meet with Board staff and representatives of the Division of Rate Counsel no less than 30 days prior to submission of an application to discuss all aspects of the application.

(e) All applications must be consistent with Board application standards as set forth in Title 14 of the New Jersey Administrative Code.

§ 14:8-6.4 Determination of completeness of application

(a) Upon receipt of the application, Board staff, in consultation with any consultants or other experts retained pursuant to N.J.A.C. 14:8-6.5(a)16, will review the application for administrative completeness in accordance with the requirements set forth in N.J.A.C. 14:8-6.5.

(b) Board staff will notify the applicant within 30 days of the submission if the application is administratively complete or is deficient. If the application is deficient, the applicant will be advised which items must be remedied to correct the deficiency or deficiencies.

(c) Once Board staff notifies the applicant that the application is complete as filed, the 180-day period for the Board to approve, conditionally approve, or deny the application will commence on the date the complete application was filed.

(d) If Board staff has notified the applicant that a deficiency or deficiencies exist, the 180-day period will not commence until all deficiencies have been remedied and the filing is deemed by Board staff to be administratively complete.

(e) If Board staff notifies the applicant that the application with the remediation of the deficiency or deficiencies is now complete, the 180-day period for the Board to approve, conditionally approve, or deny the application will commence on the last filing date of the remediation of all deficiencies.

§ 14:8-6.5 Application requirements

(a) Each application shall meet the requirements set forth in (a)1 through 16 below. The application shall include:

1. Full business information, including the developer's name, primary contact person, website, telephone numbers, e-mail address, and street address;

i. The proposal must list all key employees and include resumes of employees that have an identifiable track record in construction and operation of power plants of similar size and scope;

ii. The applicant shall describe any work done to date by the key employees in developing projects of similar scope, especially any ocean-based energy project or New Jersey large scale energy project sitting work;

iii. If the work described was not performed by the entire team, the applicant must delineate the experience or work performed by key employees;

iv. The applicant shall disclose, in detail, any prior business bankruptcies, defaults, disbarments, investigations, indictments, or other actions against either the applicant, its parent company, affiliates, subsidiaries, or any key employees identified in (a)1i above;

v. The applicant shall, for the duration of the project, commit to: notifying the Board, within 30 days, of the departure of any key employee; submitting the expertise and qualifications for any new key employee for approval by the Board; seeking Board approval for any changes to the organizational structure of key employee positions and the level of expertise and qualifications of those key employees; and obtaining prior Board approval for an entity to assume a controlling interest in the proposed project or the approved qualified offshore wind project. Enforcement of this provision shall be a condition of the order granting ORECs;

vi. The applicant is not permitted to reallocate or replace the personnel/resources or key employees they used to obtain the OREC, without prior approval of the Board;

vii. The applicant shall provide documentation, including, but not limited to, letters of intent/commitment/contract, to substantiate any claims that manufacturing services related to the qualified offshore wind project will be sourced from a New Jersey location;

2. A detailed description of the project, including maps, surveys, and other visual aides. The description shall include, but need not be limited to: the type, size, and number of proposed turbines and foundations; the history, to date, of the same type, size, and manufacturer of installed turbines and foundations globally; the configuration of turbine array, location of cable and balance of system equipment, and a description of points of interconnection; a detailed implementation plan and schedule that highlights key milestone activities and completion dates during the permitting, financing, design, equipment solicitation, manufacturing, shipping, assembly, in-field installation, testing, equipment commissioning, and service start-up; a letter of intent or memorandum of understanding from the turbine manufacturer/supplier to supply the selected turbines; a demonstration of the financial strength of the selected turbine manufacturer/supplier; a declaration from the foundation manufacturer/supplier that states their ability to manufacture and deliver all foundation components within the targeted schedule; a declaration from the undersea cable manufacturer/supplier that states their ability to manufacture and deliver all undersea cable components within the targeted schedule; a letter of intent or memorandum of understanding from the proposed engineering, procurement, and construction (EPC), balance of plant (BOP) contractor, and/or key construction contractors or vendors; a demonstration of the applicant's experience in projects of similar size and scope proposed, including the use of other turbine types; and either selected certified wind turbine generators or provide a detailed certification plan that is underwritten by a certifying body.

i. The project developers shall:

(1) Demonstrate applicable experience in projects of the size and scope proposed;

(2) Demonstrate that the wind technology is viable, cost competitive, and suitable for use in New Jersey's offshore environment under varying and expected meteorological and climate conditions;

(3) Indicate the areas used for all aspects of the project including the location(s), the construction staging area(s), and port usage;

(4) Include a map with the location of the site(s) clearly marked by longitude and latitude and the Federal Bureau of Ocean Energy Management, Regulation and Enforcement block numbers;

(5) Describe any current uses, conflicts, or characteristics of the ocean and land areas identified pursuant to (a)2i(4) above;

(6) Specify whether the project is located at one site, or divided among several sites;

(7) Define the attributes which make the site(s) attractive and list any potential problems, constraints or limitations with siting an energy facility at that location or locations;

(8) To the fullest extent possible, indicate the major types of equipment that have been selected to be installed, and the characteristics specified;

(9) Indicate whether the project team plans to own or lease equipment;

(10) Describe the selected equipment, the specifications, warranties, how long it has been commercially available, approximately how many are currently in service, and where they are installed;

(11) Include a description of the ability of the equipment to work in New Jersey's offshore and near shore climates and the basis for that conclusion; and

(12) Indicate the equipment's delivery time once an order has been placed;

ii. For actual construction, successful applicants are permitted to replace or update equipment identified in the proposal with more technologically advanced equipment that is equal to or better than the equipment identified in the proposal, subject to Board approval.

iii. Applicants shall describe construction plans in detail, identifying proposed subcontractors, with evidence of the capability of performing necessary tasks, as well as proposed time frames for completion of all necessary tasks.

iv. Applicants shall identify all applicable Federal and State statutes and regulations and municipal code requirements, with the names of the Federal, State and local agencies to contact for compliance, and a commitment to provide proof of all such compliance on an ongoing basis.

v. Applicants shall indicate the proposed nameplate capacity for the entire project and the anticipated number of individual units for the selected technology; and estimate the net yearly energy output for the project, accounting for losses and include any assumptions, such as the assumed capacity factor, that are the basis for the estimate. Applicants shall provide a wind resource and energy assessment from a wind energy consultant for the exact manufacturer, model, and specifications of turbines selected for the project. Applicants shall also provide the professional qualifications for the wind energy consultant as an attachment to the application to demonstrate sufficient expertise.

vi. Applicants shall account for, to the fullest extent possible, the coincidence between time of generation for the project and peak electricity demand; provide an estimate, with documented support, of the amount of electrical capacity the project will make available, that is calculated consistent with PJM rules and procedures; provide an estimate, with support, of the amount of energy being generated over the term of the life of the turbines; and estimate, with support, the level of generation that their proposed project will be able to provide over the life of the equipment, assuming the project runs for the equipment's full life;

3. A complete financial analysis of the project, which includes:

i. Pro forma income statements;

ii. Balance sheets;

iii. Cash flow projections for the proposed OREC period, including the internal rate of return, and a description and estimate of any State or Federal tax benefits that may be associated with the project;

iv. A comprehensive business plan with fully documented estimates of all associated and relied upon revenue and expense projections;

v. A full cost accounting of the project, including total construction, the feasibility study used to determine the construction costs, and decommissioning costs;

vi. Two years of audited financial statements, including accompanying financial notes to these statements, of the applicant and/or parent company in US GAAP. If not in US GAAP, the applicant shall provide an opinion from an accounting firm that attests to the financial statements and accompanying financial notes and the strength of the applicant and/or parent company and has provided professional qualifications that demonstrate that expertise; and

vii. Audited financial statements for two years, in US GAAP, including accompanying financial notes to these statements, for key projects suppliers including, but not limited to, the turbine manufacturer and EPC contractor. If not in US GAAP, the applicant shall provide opinions from an accounting firm that attests to the financial statements, including accompanying financial notes to these statements, and the strength of the key project suppliers and has provided professional qualifications that demonstrate that expertise;

4. The proposed method of financing the project, which includes:

i. Identification of equity investors, fixed income investors, and any other sources of capital;

ii. Evidence such as: a letter of intent to offer credit from credible financiers; a letter of commitment from equity investors; and/or a guarantee from an investment grade party;

iii. A demonstrated ability to finance construction through market sources, which may include tax exempt bond financing through the New Jersey Economic Development Authority;

iv. A detailed financial plan including all sources of capital including, but not limited to, equity, long and short term debt, and other sources. Such financial plan shall include the names, functions and fees of all financial and legal advisors. The plan shall specify if and under what conditions equity or other ownership interests in the project can be transferred to other parties and consideration involved. The developer shall notify the Board in writing of any changes within 30 days and such changes will be subject to Board approval pursuant to this subchapter; and

v. A commitment that audited financial statements shall be filed with the Board on a quarterly and annual basis;

5. Documentation to demonstrate that the developer has applied for all current eligible State and Federal grants, rebates, tax credits, and programs available to offset the cost of the project or provide tax advantages.

i. The developer shall document all Federal or State tax incentives for which it is applying or has applied or otherwise are applicable, even if such incentives have not been sought or approved.

ii. Applicants shall provide in a financial pro forma all tax credits or other subsidies upon which they are relying on in their pricing proposal.

iii. The applicant shall commit that the cost difference in the event that changes in the project reduces or eliminates tax benefits, or tax benefits do not materialize for any reason including changes in tax laws, will not be made up by ratepayers, suppliers, or providers.

iv. The applicant shall demonstrate a commitment to pass along tax credits or other governmental benefits to ratepayers that are greater than projected. This pass along of benefits will be effective without the need for any subsequent Board approval/confirmation following an initial Board Order approving OREC pricing, and will serve as a condition of the OREC approval;

6. The projected electrical output and anticipated market prices over the anticipated life of the project, including a forecast of electricity revenues from the sale of energy derived from the project and capacity, as well as revenues anticipated by the sale of any ORECs, Renewable Energy Certificates (RECs), air emission credits or offsets, or any tradable environmental attributes created by the project.

i. The applicants shall submit a project revenue plan which forecasts revenues as well as identifies the strategy for offering the electricity provided in the electric market and for generating all expected revenues;

ii. The project revenue plan must link the anticipated revenues to the project time schedule and costs for the entire project lifecycle term extending to the expected life of the turbines and eventual decommissioning;

iii. Applicants shall specify financial expectations and marketing strategies for securing revenue from expected capacity based payments in PJM markets, energy based payments in PJM markets, Renewable Energy Certificate (REC) revenue from Renewable Portfolio Standard (RPS) or voluntary markets, and emission credits from various air emission reduction cap and trade programs;

iv. Proposals must include the total installed capacity in megawatts for the entire project as well as expected term of OREC energy production in megawatt-hours; and

v. The total amount of clean energy being generated over the term of the OREC program and the life of the turbines must also be provided.

7. An operations and maintenance plan for the initial OREC term of the project is required and must:

i. Detail routine, intermittent and emergency protocols;

ii. Demonstrate that the applicant has the financial capacity and technical expertise to perform all necessary upkeep/maintenance over the life of the project;

iii. Identify the primary risks to the built infrastructure and how the potential risks, including, but not limited to, hurricanes, lightning, fog, rogue wave occurrences, and exposed cabling, shall be mitigated;

iv. Describe emergency shut down provisions in the event of a need for the immediate stoppage of turbine blades;

v. Identify specific and concrete elements to ensure both construction and operational cost controls;

vi. Provide proof of insurance;

vii. Be integrated into the financial analysis of the project, and must identify the projected plan for the subsequent operational term, assuming any necessary Federal lease agreements are maintained and renewed; and

viii. Include a complete operation and maintenance plan for the life of the plant;

8. The anticipated carbon dioxide emissions impact of the project. Data must be supplied on the environmental air impacts of each proposed wind-farm;

9. A decommissioning plan for the project including provisions for financial assurance for decommissioning and which complies with any applicable State and Federal statutes and/or regulations.

i. Proposals must estimate an expected useful economic life as well as specify a project decommissioning plan for the technology and installation area proposed.

ii. The decommissioning plan must include the anticipated cost of decommissioning the project based on applicable and/or anticipated regulatory and engineering requirements and provide for the necessary future funding. Segregated decommissioning funds shall be required;

iii. The applicant shall commit that any decommissioning costs in excess of the anticipated costs stated in the application shall not be made up by ratepayers, suppliers, or providers;

10. A list of all State and Federal regulatory agency approvals, permits, or other authorizations required pursuant to State and Federal law for the offshore wind project, and copies of all submitted permit applications and any issued approvals and permits for the offshore wind project.

i. An award to build an OSW facility is contingent upon the successful entity obtaining all required local, State and/or Federal permits and/or approvals.

ii. Applicants shall show that they are currently in the PJM queue or that the proposed project is PJM queue eligible.

iii. Each applicant shall identify all local, State and/or Federal permits and/or approvals required to build and operate the project and the expected time to obtain such permits and/or approvals. Developers shall provide the Board with copies of each permit or approval within 14 days of receipt by the developer. This is a continuing obligation upon the developer and shall serve as a condition of any OREC award.

iv. Applicants shall identify the nature of its ocean lease and land ownership requirements for all aspects of the project including all required interconnection areas.

v. Progress must be demonstrated in securing leases and land required, and applicants shall propose a plan for accomplishing remaining steps toward acquiring leases or land ownership. The type and number of entities securing leases or owning land must be indicated.

vi. Applicants shall identify each appropriate State or Federal agencies they will be contacting for land acquisition issues and provide the Board with a summary of the required arrangements.

vii. Applicants are required to demonstrate adequate financial resources to acquire any land or leases needed to undertake this project.

viii. The books and records of the applicant shall be subject to review and audit by the Board, or any other State entity or State designee.

ix. The applicant shall supply the Board with filings made to any other regulatory, governmental administrative agency. This includes, but is not limited to, any compliance filings or any inquiries by these agencies;

11. The cost-benefit analysis for the project, to show net benefits for the State, which shall include at a minimum:

i. A detailed input-output analysis of the impact of the project on income, employment, wages, indirect business taxes, and output in the State with particular emphasis on in-State manufacturing employment.

(1) The Board will not specify what input-output models are acceptable, and will allow applicants to use any model that successfully captures New Jersey economic benefits. Suggested models include, but are not limited to:

(A) Rutgers R/ECON model;

(B) Regional Economic Models, Inc. (REMI);

(C) MIG Inc. IMPLAN model; and

(D) The Bureau of Economic Analysis RIMS II model;

ii. Ratepayer net costs with explicit listing of foundations, assumptions and conditions;

iii. Environmental net benefits with explicit listing of foundations, assumptions and conditions;

iv. Other benefits, such as increased in-State activity from construction, operations and maintenance, and equipment purchases;

v. In-State impacts or benefits that need to be included in the cost-benefit analysis-income include, but are not limited to:

(1) Employment;

(2) Wages;

(3) Indirect business taxes; and

(4) Output, with a "particular emphasis" on manufacturing employment. Output refers to the sales of sectors or industries that would be supplying the offshore wind project with materials (such as turbines, steel and cement for support structures, wire for transmission cables) and services (such as construction and installation services, as well as engineering, legal, finance, and other professional services);

vi. Detailed information, including location, type or occupation, and salary for assumed employment impacts within New Jersey. Confirmation of employment impacts must be provided;

vii. The Board will evaluate the credibility of asserted economic benefits. The applicants shall propose consequences if claimed benefits do not materialize, and the employment impact may become conditions of any OREC award;

viii. Applicants shall provide information on any State grants or other subsidies from the New Jersey Economic Development Authority or other agencies associated with the proposed wind project and include the subsidy as part of the project cost-benefit analysis;

ix. Direct, indirect and induced effects will be considered in the evaluation, as such effects should be considered as part of the evaluation associated with construction and operation of the project;

x. The major assumptions and inputs used in the modeling must be specified by the applicant;

xi. The Board staff may ask the applicant to rerun the model with other assumptions and inputs to be provided by the Board staff;

xii. The Board staff may test an applicant's cost benefit analysis on its own model, which, preferably, would be the same one used by an applicant but it could be a different one, by replicating the analysis using model inputs supplied by the applicant;

xiii. Applicants shall also submit an explanation of the location, type and salary of employment opportunities to be created by the project with job totals expressed as full-time equivalent positions assuming 1,820 hours per year;

xiv. Applicants shall provide an analysis of the anticipated environmental benefits and environmental impacts of the project.

(1) Each project must document all associated impacts from pre-construction activities through decommissioning including, but not limited to, environmental, water use, water quality, avian, marine mammals, sea turtle, noise, aesthetics, tourism, navigation and endangered species. This includes sea-bed disruption of marine life, morbidity or mortality among avian, mammal or benthic populations, emissions of combustion by-products to the air or oil or other toxic releases to the ocean, or solid waste generation.

(2) Applicants shall specifically describe how their activities will be coordinated with the New Jersey Department of Environmental Protection (NJDEP) Ecological Baseline Studies, and indicate how each resource issue, if impacted, will be addressed.

(3) The applicant shall provide information regarding the direct emissions impacts of the project, including carbon dioxide, sulfur dioxide, particulate emissions, as well as other relevant environmental impacts, such as impacts on the marine environment.

(4) The applicant shall provide an assessment of environmental impacts from the project compared to other similar Class I renewable energy projects.

(5) Environmental impacts (direct and comparative) must be quantified to the extent they are significant and it is possible to quantify them.

(6) The comparative environmental impacts shall be monetized, to the extent possible, for evaluation as part of the overall cost-benefit analysis; and

xv. Applicants shall submit an analysis of the potential positive and negative impacts on residential and industrial ratepayers of electricity rates over the life of the project that may be caused by OREC requests;

12. A proposed OREC pricing method and schedule for the Board to consider.

i. An electric power supplier or basic generation service provider shall comply with the OREC program through the purchase of ORECs at a price and for the time period required by the Board.

ii. Payment will not occur until electricity is produced by a qualified offshore wind project.

iii. The burden remains on the applicant to propose a reasonable OREC price. The Board will then accept, modify or reject the proposed price of the OREC and the associated term. The Board requires a fixed, flat OREC price for the proposed term or a fixed price for every contract year. All proposals must include a total price that reflects capacity, energy and other elements of generation.

iv. OREC pricing will be on a pay for performance basis, with payments to be on a $/MWh basis, subject to any quantity caps, with the offshore wind developer responsible for any cost overruns. Ratepayers will not be responsible for any cost overruns and for costs associated with non-performance.

v. If the pricing proposal satisfies the cost-benefit standards set forth in the statute and the Board's regulations, the Board may approve the application subject to the application satisfying other required conditions.

vi. The Board may conditionally approve an application at a lower OREC price if that OREC price would allow an applicant to satisfy the cost-benefit standards. The applicant may then accept or reject the lower OREC price.

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 including the cost of equipment, financing, taxes, construction, operation, and maintenance, offset by any state or Federal tax or production credits and other subsidies or grants. The value of the electricity and related capacity payments associated with the ORECs shall not be deducted when calculating the OREC price.

viii. OREC pricing proposals shall specify:

(1) Total equipment, construction, operation, and maintenance costs of the project;

(2) Tax credits, subsidies, or grants the project will qualify for;

(3) Debt service costs and return on equity assumptions;

(4) Taxes and depreciation assumptions;

(5) The nameplate capacity of the project;

(6) The expected energy output of the project;

(7) The assumed capacity factor and the number of ORECs to be produced by the project; and

(8) The price per OREC (megawatt hours (MWh)) necessary to make the project commercially viable.

ix. The value of electric energy, capacity payments, and any other environmental attributes or other benefits shall be returned to ratepayers for the term of the OREC pricing method. Such other benefits include, but are not limited to, tax credits, subsidies, grants, or other funding not previously identified in the application and not included in the calculation of the OREC price submitted to the Board. To the extent that the project produces energy revenues exceeding those associated with the sale of ORECs, the applicant may propose that it retain up to 25 percent of the incremental energy revenues, but not any other environmental attributes or other benefits, with the remainder to be returned to ratepayers. The annual amount of revenues from whatever source expected to be generated by the project shall be reflected in the revenue plan;

13. A timeline for the permitting, licensing and construction of the proposed offshore windproject. The proposal must specify the expected project time requirements in the aggregate from start to finish as well as the time required to accomplish each specific activity related to project design, resource monitoring, impact studies, permitting, construction, and decommissioning activities with associated milestones delineated for each category of activity;

14. A plan for interconnection, including engineering specifications and costs.

i. Applicants shall document tasks required and discuss issues associated with electrical interconnection, including the distance between the project and a suitable point to interconnect with the electrical grid. Each proposed point of interconnection shall be discussed.

ii. Land acquisition requirements, new equipment to be installed, upgrades to existing equipment required, and any feasibility studies required and the time frame for review must be identified.

iii. A detailed description of how the proposed project will address and mitigate load constraints in the electric distribution and PJM transmission system must be included for each site.

iv. The proposal must demonstrate to the greatest extent possible how the project will address current or potential future load pocket or constraint problems with the electric distribution system and the PJM transmission system.

v. The applicant shall indicate the location of transmission lines and all points of interconnection to the PJM system serving New Jersey.

vi. Applicants shall provide information to the Board for costs associated with network upgrades that flow from the project even if not directly caused by the interconnection;

15. All applicants must place a minimum of $ 100,000 on deposit with the State to reimburse the Board for the costs of consultants and other costs associated with the review of the application.

i. Board staff will direct the applicant, if appropriate, to place an additional amount on deposit with the State, based upon the current and expected costs associated with the application review and related administrative proceedings.

ii. Failure to replenish the account to the level required by Board staff within 21 days of notification will serve to render the application incomplete and toll the time for review.

iii. Subsequent to approval of a qualified offshore wind facility, the successful applicant may, at the direction of Board staff, be required to place additional amounts on deposit with the State for the purpose of reimbursing the Board for costs related to regulatory review of the project, including, but not limited to, consulting services, oversight, inspections, and audits; and

16. Any other information deemed necessary by the Board in order to conduct a thorough evaluation of the proposal. The Board may hire consultants or other experts if the Board determines that obtaining such outside expertise would be beneficial to the review of the proposal.

(b) In considering an application for a qualified offshore wind project, submitted pursuant to (a) above, the Board shall determine that the application satisfies, at a minimum, the following conditions:

1. The filing must be consistent with the New Jersey Energy Master Plan, adopted pursuant to section 12 of P.L. 1977, c. 146 (N.J.S.A. 52:27F-14), in effect at the time the Board deems the application complete;

2. The cost-benefit analysis must demonstrate positive economic and environmental net benefits to the State because it is a key component of the legislation;

3. The comparison of purchases of Class I RECs to out-of-State wind projects;

4. An applicant's cost-benefit analysis must provide three basic types of information:

i. Impacts on New Jersey ratepayers: an analysis of the potential impacts on residential and industrial ratepayers of electricity rates over the life of the project that may be caused by incorporating any State subsidy into rates;

ii. Net benefits to the New Jersey economy through impacts on income, employment, wages, indirect business taxes, and output, with particular emphasis on in-State manufacturing employment; and

iii. Net environmental effects of the project;

5. Applicants shall show that the financing mechanism is based upon the actual electrical output of the project, and fairly balances the risks and rewards of the project between ratepayers and shareholders. Applicants shall ensure that any costs of non-performance, in either the construction or operational phase of the project, shall be borne by shareholders; and

6. Applicants shall demonstrate financial integrity and sufficient access to capital to allow for a reasonable expectation of completion of construction of the project.

i. Applicants shall prove that they have the financial resources to perform the proposed work, appropriate technical expertise, access to adequate facilities or the ability to get them, a good performance record and be qualified under all applicable laws and regulations.

ii. Applicants shall submit audited financial statements or other evidence of adequate financial capacity to the Board in order to ensure that the project can be successfully completed as proposed.

§ 14:8-6.6 Funding mechanism (Reserved)

Attachment Five: Offshore Wind Economic Development Act

N.J. Stat. § 48:3-87.1

This section is current through New Jersey 218th First Annual Session, L. 2018, c. 70, and J.R. 6

LexisNexis® New Jersey Annotated Statutes > Title 48. Public Utilities (Chs. 1 — 24) > Chapter 3. Public Utilities Generally (Arts. 1 — 9) > Article 8. Energy Rate Competition (§§ 48:3-49 — 48:3-98.5)

§ 48:3-87.1. Application to construct offshore wind project

a.An entity seeking to construct an offshore wind project shall submit an application to the board for approval by the board as a qualified offshore wind project, which shall include, but need not be limited to, the following information:

(1)a detailed description of the project, including maps, surveys and other visual aides. This description shall include, but need not be limited to: the type, size and number of proposed turbines and foundations; the history to-date of the same type, size and manufacturer of installed turbines and foundations globally; and a detailed implementation plan that highlights key milestone activities during the permitting, financing, design, equipment solicitation, manufacturing, shipping, assembly, in-field installation, testing, equipment commissioning and service start-up;

(2)a completed financial analysis of the project including pro forma income statements, balance sheets, and cash flow projections for a 20-year period, including the internal rate of return, and a description and estimate of any State or federal tax benefits that may be associated with the project;

(3)the proposed method of financing the project, including identification of equity investors, fixed income investors, and any other sources of capital;

(4)documentation that the entity has applied for all eligible federal funds and programs available to offset the cost of the project or provide tax advantages;

(5)the projected electrical output and anticipated market prices over the anticipated life of the project, including a forecast of electricity revenues from the sale of energy derived from the project and capacity, as well as revenues anticipated by the sale of any ORECs, RECs, air emission credits or offsets, or any tradable environmental attributes created by the project;

(6)an operations and maintenance plan for the initial 20-year operation of the project that: details routine, intermittent and emergency protocols; identifies the primary risks to the built infrastructure and how the potential risks, including but not limited to hurricanes, lightning, fog, rogue wave occurrences, and exposed cabling, shall be mitigated; and identifies specific and concrete elements to ensure both construction and operational cost controls. This operations and maintenance plan shall be integrated into the financial analysis of the project, and shall identify the projected plan for the subsequent 20 years, following conclusion of the initial 20-year operations, assuming any necessary federal lease agreements are maintained and renewed;

(7)the anticipated carbon dioxide emissions impact of the project;

(8)a decommissioning plan for the project including provisions for financial assurance for decommissioning as required by the applicable State and federal governmental entities;

(9)a list of all State and federal regulatory agency approvals, permits, or other authorizations required pursuant to State and federal law for the offshore wind project, and copies of all submitted permit applications and any issued approvals and permits for the offshore wind project;

(10)a cost-benefit analysis for the project including at a minimum:

(a) a detailed input-output analysis of the impact of the project on income, employment, wages, indirect business taxes, and output in the State with particular emphasis on in-State manufacturing employment;

(b) an explanation of the location, type and salary of employment opportunities to be created by the project with job totals expressed as full-time equivalent positions assuming 1,820 hours per year;

(c) an analysis of the anticipated environmental benefits and environmental impacts of the project; and

(d) an analysis of the potential impacts on residential and industrial ratepayers of electricity rates over the life of the project that may be caused by incorporating any State subsidy into rates;

(11) a proposed OREC pricing method and schedule for the board to consider;

(12) a timeline for the permitting, licensing and construction of the proposed offshore wind project;

(13) a plan for interconnection, including engineering specifications and costs; and

(14) any other information deemed necessary by the board in order to conduct a thorough evaluation of the proposal. The board may hire consultants or other experts if the board determines that obtaining such outside expertise would be beneficial to the review of the proposal.

b.

(1) In considering an application for a qualified offshore wind project, submitted pursuant to subsection a. of this section, the board shall determine that the application satisfies the following 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; and

(d) the entity proposing the project demonstrates financial integrity and sufficient access to capital to allow for a reasonable expectation of completion of construction of the project.

(2) In considering an application for a qualified offshore wind project, submitted pursuant to subsection a. of this section, the board shall also consider:

(a) the total level of subsidies to be paid by ratepayers for qualified offshore wind projects over the life of the project; and

(b) any other elements the board deems appropriate in conjunction with the application.

c. An order issued by the board to approve an application for a qualified offshore wind project pursuant to this section shall, at a minimum, include conditions to ensure the following:

(1) no OREC shall be paid until electricity is produced by the qualified offshore wind project;

(2) ORECs shall be paid on the actual electrical output of the project that is delivered into the transmission system of the State;

(3) ratepayers and the State shall be held harmless for any cost overruns associated with the project; and

(4) the applicant will reimburse the board and the State for all reasonable costs incurred for regulatory review of the project, including but not limited to consulting services, oversight, inspections, and audits.

An order issued by the board pursuant to this subsection shall specify the value of the OREC and the term of the order.

An order issued by the board pursuant to this subsection shall not be modified by subsequent board orders, unless the modifications are jointly agreed to by the parties.

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.

History

L. *2010, c. 57*, § 3, eff. Aug. 19, 2010.

Annotations

Research References & Practice Aids

Cross References:

Coordination in administration of programs; use of moneys, see *26:2C-51*.

Credit to business for wind energy facility; eligibility, see *34:1B-209.4*.

Definitions relative to competition in the electric power, gas, solar energy and offshore wind industries, see *48:3-51*.

Environmental disclosure requirements; standards; rules, see *48:3-87*.

Approval of project by board, see *48:3-87.2*.

End of Document

N.J. Stat. § 48:3-87.2

This section is current through New Jersey 218th First Annual Session, L. 2018, c. 70, and J.R. 6

LexisNexis® New Jersey Annotated Statutes > Title 48. Public Utilities (Chs. 1 — 24) > Chapter 3. Public Utilities Generally (Arts. 1 — 9) > Article 8. Energy Rate Competition (§§ 48:3-49 — 48:3-98.5)

§ 48:3-87.2. Approval of project by board

a.The board may approve, subject to the project obtaining the necessary permits, approvals, and authorizations from the Department of Environmental Protection, a qualified wind energy project located in territorial waters offshore of a municipality in which casino gaming is authorized, and authorize offshore wind renewable energy certificates for that project. Any such project shall be a nominal 20 megawatts and no more than 25 megawatts in nameplate capacity and comply with the requirements set forth in section 3 of *P.L.2010, c.57* (*C.48:3-87.1*), and the cumulative number of wind turbines approved for the project shall not exceed six.

b.Upon the date of enactment of *P.L.2018, c.21*, the board shall accept a submitted application under section 3 of *P.L.2010, c.57* (*C.48:3-87.1*) for the qualified wind energy project to be located in territorial waters offshore of a municipality in which casino gaming is authorized for which an application therefor had been submitted to the board prior to the date of enactment of *P.L.2018, c.21*. The board may consider relevant information filed in connection with the prior application in undertaking its review and, notwithstanding the requirements set forth in subsection d. of section 3 of *P.L.2010, c.57* (*C.48:3-87.1*), shall make a final determination on the application within 90 days of the date a complete application is filed with the board.

History

L. *2010, c. 57*, § 4, eff. Aug. 19, 2010; amended *2018, c. 21*, § 1, eff. May 30, 2018.

Annotations

Notes

Amendment Notes

2018 amendment, by Chapter 21, designated former section as a. and added “and the cumulative number of wind turbines approved for the project shall not exceed six” at the end of the second sentence; and added b.

End of Document

Attachment Six: Proposed OREC Funding Mechanism

RULE PROPOSALS

INTERESTED PERSONS

Interested persons may submit comments, information or arguments concerning any of the rule proposals in this issue until the date indicated in the proposal. Submissions and any inquiries about submissions should be addressed to the agency officer specified for a particular proposal.

The required minimum period for comment concerning a proposal is 30 days. A proposing agency may extend the 30-day comment period to accommodate public hearings or to elicit greater public response to a proposed new rule or amendment. Most notices of proposal include a 60-day comment period, in order to qualify the notice for an exception to the rulemaking calendar requirements of N.J.S.A. 52:14B-3. An extended comment deadline will be noted in the heading of a proposal or appear in subsequent notice in the Register.

At the close of the period for comments, the proposing agency may thereafter adopt a proposal, without change, or with changes not in violation of the rulemaking procedures at N.J.A.C. 1:30-6.3. The adoption becomes effective upon publication in the Register of a notice of adoption, unless otherwise indicated in the adoption notice. Promulgation in the New Jersey Register establishes a new or amended rule as an official part of the New Jersey Administrative Code.

PUBLIC UTILITIES

(a)

BOARD OF PUBLIC UTILITIES

Qualified Offshore Wind Projects

Proposed New Rules: N.J.A.C. 14:8-6.6 and 6.7

Proposed Amendments: N.J.A.C. 14:8-6.1 and 6.2

Authorized By: New Jersey Board of Public Utilities, Joseph L. Fiordaliso, President, Mary-Anna Holden, Dianne Solomon, Upendra Chivukula, and Bob Gordon, Commissioners.

Authority: N.J.S.A. 48:2-13.

Calendar Reference: See Summary below for explanation of exception to calendar requirement.

BPU Docket Number: QX18040466.

Proposal Number: PRN 2018-078.

Comments may be submitted through October 19, 2018, by e-mail in Microsoft Word format, or in a format that can be easily converted to Word, to: rule.comments@bpu.nj.gov or on paper to:

Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
ATTN: BPU Docket Number: QX18040466
44 S. Clinton Ave., 3rd Floor, Suite 314
PO Box 350
Trenton, NJ 08625-0350

The agency proposal is as follows:

Summary

The New Jersey Board of Public Utilities (Board) proposes new rules and amendments to N.J.A.C. 14:8-6 to establish the offshore wind energy certificate (OREC) funding mechanism. The purpose of this rulemaking is to set forth the method and processes by which ratepayers will fund an offshore wind (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 delivered to ratepayers.

Under the existing rules, each supplier/provider that sells electricity to retail customers in New Jersey 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 offshore wind project (see N.J.A.C. 14:8-6.2). The proposed new rules describe the method by which suppliers will meet this obligation and how funds from the sale of ORECs will flow to the qualified offshore wind projects. The new rules and amendments also describe how revenues earned by offshore wind projects, including the sale of electricity, capacity, and other services, will be refunded to ratepayers as required under the 2010 Offshore Wind Economic Development Act (OWEDA), N.J.S.A. 48:3-87.1 et seq.

The new rules and amendments set forth the roles and responsibilities of each of the parties including suppliers, the suppliers' payment agent, and the electric distribution companies (EDCs), qualified offshore wind developers, and the OREC administrator. The OREC funding mechanism requires that: (1) all suppliers shall retire sufficient number of ORECs each year to meet the offshore wind renewable portfolio standard requirement set by the Board; (2) the EDCs shall serve as payment agent on behalf of the suppliers to facilitate the exchange of OREC payments from ratepayers to an OSW project and all revenues generated by an OSW project to ratepayers. The EDCs shall make monthly payments to the OSW project based on the number megawatt hours (MWhs) generated by the project and presented for payment; (3) Upon receipt of payment for ORECs, the qualified offshore wind developers shall transfer ORECs to suppliers via a PJM EIS GATs account and shall refund all revenues to ratepayers via the EDCs; and (4) an OREC administrator shall be jointly contracted by the EDCs to facilitate invoicing, payment, and verification that all obligations have been met. The OREC administrator shall conduct a true up twice a year to ensure compliance with the Renewable Portfolio Standards (RPS) offshore wind requirements.

The Board staff provided an opportunity for interested stakeholders to comment on a straw proposal of the proposed rule, which described these roles and responsibilities. The straw proposal and a notice of request for comments was distributed to all interested parties and posted on the Board's website on April 27, 2018. A public meeting was held on May 8, 2018, to provide interested stakeholders with an opportunity to provide written comments on or before May 18, 2018. Board staff posted all written comments on the Board's website and convened meetings with stakeholders to solicit additional input. Upon review and consideration of all comments and input received, the Board herby submits this rulemaking to the Office of Administrative Law for publication in the New Jersey Register.

This proposed rule is submitted in furtherance of implementing Governor Murphy's Executive Order No. 8 (2018), which explicitly calls upon the Board to fully implement the OWEDA in order to meet the State's goal of 3,500 megawatts of offshore wind capacity by 2030, to proceed with a solicitation of 1,100 megawatts of offshore wind capacity and to finalize the rules for an OREC funding mechanism in support of that goal and the solicitation.

As the Board has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

The proposed amendments and new rules to the RPS rules will have a positive social impact for New Jersey by supporting the generation of zero emission electricity from nearby offshore wind projects that will help reduce greenhouse gases and other environmental pollutants. The rulemaking reduces risk and administrative costs for ratepayers and suppliers associated with achieving the offshore wind carve-out. The relative impact, however, will depend on Board approval of offshore

wind projects and the amount of energy produced. Actual social benefits associated with each proposed project will be calculated and evaluated as part of the OREC application process. Once approved and operational, offshore wind will reduce greenhouse gases and other pollutants stemming from fossil fuel generation including CO2, sulfur dioxide, and nitrogen dioxide. If fully implemented, the OREC funding mechanism will also reduce risk associated with offshore wind project financing and, thus, facilitate the transition to clean sources of energy and overall reduction of emissions and the social impacts associated with those emissions.

Economic Impact

The proposed amendments and new rules will impact rate payers and utilities as the rulemaking requires that utilities establish a surcharge on ratepayers for the cost of the ORECs. However, these costs will be offset, because all of the revenues paid to the wind project must be refunded to the ratepayers. The OREC costs will also be offset by the net economic benefits associated with each project related to the local supply chain benefits and jobs created by the project. Actual economic benefits associated with each proposed project will be calculated and evaluated as part of the OREC application process. Under OWEDA and per the OREC application rules at N.J.A.C. 14:8-6, Offshore Wind Projects must demonstrate a net-economic benefit for the State in order to be qualified to receive ratepayer support in the form of ORECs.

Federal Standards Statement

No Federal standards analysis is required because the proposed amendments and new rules are not proposed in order to implement, comply with, or participate in any program established under Federal law or under a State law that incorporates or refers to Federal law, standards, or requirements.

Jobs Impact

The proposed amendments and new rules to the RPS rules are designed to encourage the development of new Class I renewable energy sources in the State and the development of a clean energy economy. The rulemaking is critical to the investment in New Jersey's Class I resources in general, and offshore wind in particular, and will result in the creation of new jobs associated with the development, construction, and operation of the offshore wind projects. A typical utility scale offshore wind project of 1,000 megawatts creates approximately 1,000 jobs per year during a two-year-to-three-year construction cycle, and another 100 permanent jobs to support the 25-year life of a typical offshore wind farm.

Agriculture Industry Impact

The Board does not expect any direct agriculture industry impact from the proposed amendments and new rules other than those associated with the reduction of greenhouse gases to mitigate the effects of climate change.

Regulatory Flexibility Statement

The proposed amendments and new rules will not impose any recordkeeping, reporting, or other compliance requirements on small businesses. A small business, as defined in the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq. is a business that has fewer than 100 full-time employees, of which no regulated entity so qualifies.

Housing Affordability Impact Analysis

The proposed amendments and new rules will have no impact on the affordability of housing in New Jersey and will not evoke a change in the average costs of housing as the rulemaking describes the flow of funding and does not determine the cost of offshore wind, the OREC price, the impact of proposed offshore wind projects to ratepayers nor housing affordability.

Smart Growth Development Impact Analysis

The proposed amendments and new rules should not have any significant impact on smart growth and will not evoke a change in housing production in Planning Areas 1 or 2, or within designated centers, under the State Development and Redevelopment Plan because the rulemaking describes the flow of funding and does not determine the impact of proposed offshore wind projects to smart growth initiatives.

Racial and Ethnic Community Criminal Justice and Public Safety Impact

The Board has evaluated the proposed amendments and new rules and determined that they will not have an impact on pretrial, detention, sentencing, probation, or parole policies concerning adults and juveniles in the State. Accordingly, no further analysis is required.

Full text of the proposal follows (additions indicated in boldface **thus**; deletions indicated in brackets [thus]):

SUBCHAPTER 6. QUALIFIED OFFSHORE WIND PROJECTS

14:8-6.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions that apply to this subchapter can be found at N.J.A.C. 14:3-1.1 and 14:4-1.2.

"Annual OREC allowance" means the Board-approved maximum number of ORECs for which a qualified OSW project can be paid during each year of its qualification life.

"Annual OREC allowance schedule" means the schedule included in each qualified OSW project's OREC Order, representing the scheduled amount of ORECs that the project may submit to the OREC payment agent for payment for each month of the year, with the monthly amounts totaling to equal the annual OREC allowance. A project may exceed its monthly allocation due to higher production or output, as long as it does not exceed the annual OREC allowance.

"Annual total projected load" means the State's total load in the energy year immediately proceeding the year during which suppliers must meet their OREC obligation and is used in calculating the OREC purchase percentage.

"Commercial operations date (COD)" means the date upon which a qualified OSW project, which is interconnected to the transmission system in New Jersey, begins to generate power for which it is eligible to receive ORECs.

. . .

"Energy year (EY)" means the 12-month period from June 1st through May 31st and shall be numbered according to the calendar year in which it ends (for example, EY 2019 runs from June 1, 2018 through May 31, 2019).

"Generation attribute tracking system (GATS)" means the environmental and emissions attribute tracking system for electric generation that is administered by PJM Environmental Information Services (EIS).

. . .

"Offshore wind administrative cost" means the reasonable costs incurred by the EDCs in serving as payment agent and for contracting the OREC administrator, which shall be recoverable by the EDCs.

"Offshore wind alternative compliance payment (OACP)" means a payment made on behalf of a supplier during annual true up due to insufficient OREC supply that shall be equal to the price of an OREC.

. . .

"Offshore wind facility qualification life" means, for any qualified offshore wind generation facility, the period beginning on the commercial operation date (COD) when the facility is authorized to operate under this subchapter and ending on the conclusion of the energy year that is 20 years after the date of authorization to operate. An offshore wind facility's qualification life applies to the facility itself, and to each piece of equipment included in the facility, regardless of any interruption in the offshore wind facility's operation; or of any disassembly, relocation, sale, or transfer of any piece of equipment included in the facility.

. . .

"OREC administrator" means the independent entity jointly contracted by EDCs to oversee and verify all OREC transactions, the refund of all revenues to ratepayers, and annual compliance with the OSW Renewable Portfolio Standard (RPS) obligation.

"OREC payment agent" means the electric distribution company that shall facilitate the transfer of funds pursuant to this subchapter.

"OREC purchase percentage" means the percentage of load for which all suppliers must purchase and retire ORECs, or receive an OACP credit, per this program, as set forth in the OSW carve-out.

"OREC purchase price" means the amount that must be paid for an OREC through this program as established by the Board for each project for each energy year.

"OREC qualification life" means the eligibility period of an OREC. ORECs are eligible to be applied toward the OSW RPS carve-out during the energy year in which they are produced, and the following two energy years, pursuant to the Offshore Wind Economic Development Act, N.J.S.A. 48:3-87.1 et seq.

"OREC surcharge" means a non-bypassable surcharge on ratepayers, to be set annually by the Board, and collected by the EDCs to cover the OREC costs.

"OREC Transaction Management Agreement" means a uniform agreement entered into between each qualified OSW project and the OREC administrator. This OREC Transaction Management Agreement shall serve as the detailed management plan or "operating manual" describing how the OREC administrator will oversee and report out on all OREC transactions and shall require Board approval before going into effect.

"OWEDA" means the Offshore Wind Economic Development Act, N.J.S.A. 48:3-87.1 et seq.

. . .

["Wind energy zone" means property located in the South Jersey Port District established pursuant to the South Jersey Port Corporation Act, N.J.S.A. 12:11A-1 et seq., or as may be amended.]

"Supplier" means basic generation service (BGS) suppliers and third-party suppliers.

"Term" means the period after the COD, during which ORECs may be generated, priced, and sold by a qualified OSW project.

14:8-6.2 Offshore wind renewable portfolio standards requirements

(a)-(f) (No change.)

(g) The offshore wind carve-out to the RPS schedule is as follows:

1. The OSW carve-out shall establish for each energy year:

i. The total number of MWhs that the Board has authorized as eligible to receive ORECs;

ii. Annual RPS requirement or OSW purchase percentage set as a percentage of retail sales a supplier must cover by purchasing ORECs; and

iii. The OREC purchase price that each individual qualified OSW project has been authorized to receive in OREC Orders in effect for the energy year.

2. The OSW carve-out shall:

i. Become effective in the first energy year in which the first approved OSW project's commercial operations date falls, and then be adjusted by the Board on an annual basis to reflect subsequent projects;

ii. Continue for each energy year during which any qualified OSW project is operational, up to and including the energy year in which the last qualified OSW project reaches the end of its term as established in its OREC order;

iii. Be published annually by the Board no less than three months prior to the BGS auction;

iv. Be set and maintained by the Board in order to ensure that sufficient revenues from suppliers, or designated payment agent, are received by the qualified OSW projects for ORECs generated up to each project's approved OREC allowance;

v. Account for any payments made in excess of a project's approved OREC allowance and these payments shall be refunded to ratepayers;

vi. Require the OREC administrator to advise the Board on an annual basis to determine if the OREC purchase percentage is set too high or too low and needs to be reset to meet the annual OREC allowance;

vii. Require the OREC administrator to advise the Board on an annual basis, the amount of the surcharge to be collected by each EDC in order to meet the annual OREC allowance for each qualified offshore wind facility; and

viii. Be evaluated annually, and adjusted if necessary, by the Board to ensure sufficient OREC purchase percentage, including adjustments needed to account for any new OREC orders issued in the previous year and changes to the annual total projected load.

3. The OREC administrator shall conduct a true up twice annually at six months and at 12 months and no later than 120 days after the close of each energy year during each year of supplier obligations, to ensure compliance and provide the Board recommendations for any adjustments to the OSW purchase percentage and OSW carve-out.

4. Any adjustment to the OSW purchase percentage and OSW carve-out schedule shall be made at least three years in advance of the applicable energy year. Adjustments to the Class I requirements, necessitated by a change in the OSW requirement percentage, shall be made in tandem and three years in advance.

5. Suppliers shall:

i. Meet the OSW carve-out requirement by obtaining ORECs from each qualified OSW project in sufficient amounts as verified by the OREC administrator;

ii. Set up a PJM-EIS GATs account to receive ORECs from qualified OSW projects on a quarterly basis through the OREC administrator; and

iii. Retire ORECs from qualified OSW projects on an annual basis in order to meet the OSW carve-out obligation, in the same manner they would retire other types of RECs to meet other RPS obligations.

14:8-6.6 Funding mechanism [(Reserved)]

(a) Once the Board has approved an offshore wind project under this subchapter, the qualified OSW project shall be funded through an Offshore Wind Renewable Energy Certificate (OREC) as set forth in this subsection and in accordance with the following fundamental principles:

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 full amount of the cost to build and operate an OSW project 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 (MWhs) actually generated over the 20-year term delineated in the Board Order, and shall have no recourse against the Board, the suppliers, the EDCs, the OREC administrator, or the ratepayers for any additional payments;

5. ORECs from a qualified offshore wind 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.

(b) The Board Order granting approval of a qualified OSW project, pursuant to the provisions of N.J.A.C. 14:8-6.5 for designation as a qualified OSW project, shall conform to the provisions of this section and shall include, but not be limited to:

1. A commercial operations date (COD) after which ORECs may be generated, priced, sold, or otherwise attributed to the project;

2. The annual OREC allowance expressed as the total number of MWhs for which a project may be eligible to receive payment of ORECs. This amount shall be based on the total installed capacity of the project, projected capacity factor, and total number of hours of operation per year and any other factors identified by the applicant, consistent with this subchapter;

3. An OREC schedule showing the scheduled amount of ORECs that a project may submit for payment for each month of the year,

with the total monthly scheduled amounts equal to the annual OREC allowance;

4. A qualified offshore wind project may not exceed the annual OREC allowance in any given year. Any unmet OREC allowances in a given year may be carried forward to the next year;

5. A requirement that the qualified OSW project comply with the standard participation agreement with the OREC administrator. The standard participation agreement and any subsequent modifications shall be developed by the OREC administrator and approved by the Board;

6. A requirement that all project revenues are refunded to ratepayers;

7. A calculated OREC surcharge for the OSW project, using the anticipated in-service or COD date, based on the OREC price of each approved OSW project multiplied by the annual OREC production in MWhs and divided by the total forecasted load of EDCs plus any applicable sales tax;

8. A directive to each EDC to serve as payment agent on behalf of the suppliers in the EDC's territory;

9. A requirement that the project report annually to the OREC administrator and to the Board on actions taken by the developer to maximize production and revenues;

10. A requirement that the project reports to the policies that may be adopted by the Board to help reduce future OREC pricing and the total ratepayer impact;

11. Annual reporting requirements to ensure RPS compliance and to facilitate the OREC administrator's annual true up to ensure that all obligations have been met;

12. A fixed, flat OREC price for the proposed term or a fixed price for every contract year pursuant to this section;

13. An approved decommissioning plan; and

14. An approved plan for the OSW project, if it is not decommissioned immediately at the conclusion of the approved 20-year term of OREC funding.

(c) The Board shall direct each EDC to serve as payment agent on behalf of the suppliers in each EDC territory to facilitate the transfer of OREC funding payments from ratepayers to offshore wind developers. As payment agent, each EDC shall:

1. File with the Board a tariff no later than 180 days prior to the COD date 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;

2. Implement the ratepayer surcharge based on the Board-approved total annual OREC allowance 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;

3. The amount of the OREC surcharge shall be set by the Board annually, and shall become effective on the first day of each energy year, and shall be equal to the forecast revenue requirements of all OREC purchases divided by the total of estimated sales for each EDC, and shall include all applicable taxes and fees;

4. Begin collecting the OREC surcharge four months in advance of the OSW project COD to ensure that adequate funds will be available to complete the initial OREC payment to the OSW developer;

5. Establish separate accounts for each OSW project to ensure that OREC funds for an OSW project are collected and dedicated to each OSW project individually and shall not be intermingled with any other OSW project;

6. Make monthly OREC payments to OSW developers based on the actual number of MWhs produced by the OSW project, until the total annual OREC allowance approved by the Board Order has been reached;

7. Facilitate and execute the transfer of all revenues generated by an OSW project from the OSW developer to the ratepayers as directed by this section and in accordance with N.J.S.A. 48:3-87.1;

8. Provide detailed, monthly accounting reports to the OREC administrator of all transactions, account balances, and any other information requested by the Board or the OREC administrator related to the obligations identified in this section;

9. Participate in any and all true up proceedings, to be conducted by the OREC administrator, as prescribed by the Board; and

10. File with the Board annually for recoverable charges for the administrative fees incurred as payment agent and for the OREC administrator fees.

(d) The Board shall direct the EDCs to enter into a joint contract to retain an OREC administrator. The contract shall be competitively bid to ensure the most efficient and cost competitive price for ratepayers. The OREC administrator shall:

1. Be independent of any supplier, EDC, or qualified OSW developer, affiliate, investor, and/or employee;

2. Serve as the sole administrator for accounting, compliance, invoicing, and other administrative matters related to or arising from the OREC obligations of qualified OSW facilities pursuant to OWEDA;

3. Notify the EDCs at the beginning of each energy year the total offshore wind carve-out obligation and total surcharge on ratepayers to be collected consistent with the Board Order, as well as the amount to be collected for each qualified offshore wind project and to be held in a separate account;

4. Facilitate all transactions between ratepayers, suppliers, EDCs, and OSW developers;

5. Develop a payment tracking and verification system, subject to Board approval, to track all transactions that shall account for, at a minimum:

i. All payments due by EDCs on behalf of suppliers to OSW developers;

ii. All project revenues from OSW developers to be refunded to ratepayers through the EDCs;

iii. All project revenues held by OSW developers in a reserve account;

iv. All ORECs held in PJM EIS GATs accounts for transfer from OSW developers to suppliers;

v. The final retirement of all ORECs by suppliers in compliance with the RPS offshore wind carve-out;

vi. Supplier load data from PJM in order to confirm each supplier's annual OREC obligation;

vii. EDC load data in order to confirm each EDC's relative share of the annual OREC obligation and ratepayer surcharge;

viii. OSW production data from OSW developers and PJM in order to confirm project performance and all associated revenues in the form of ORECs and project revenues;

ix. All project revenues including PJM revenues paid to the project for energy, capacity and ancillary services as well as any penalties incurred by the project.

x. The monthly transfer of ORECs from qualified OSW projects to a PJM-EIS GATS account managed by the OREC administrator and the transfer of all project revenues to EDCs for refund to ratepayers;

xi. The transfer of ORECs on a quarterly basis via a PJM-EIS GATS account to the suppliers;

xii. Receipt of payment by a qualified OSW project for its annual OREC allowance, based on actual generation and at the price and quantities established in their OREC order issued by the Board;

xiii. Receipt of all project revenues by EDCs for which ratepayers are entitled to a refund;

xiv. Refunds of all project revenues to ratepayers; and

xv. All ORECs that have been banked by OSW developers to meet the supplier obligations in any given year;

6. The OREC administrator shall set up a PJM-EIS GATs account to facilitate the transfer of ORECs from the OSW developers to suppliers;

7. Conduct a true up two times each energy year at six months and at 12 months of the energy year. The 12-month true up shall be completed and submitted to the Board no later than 90 days after the close of the energy year in accordance with this subchapter to ensure compliance with the OSW RPS and to advise the Board in a technical capacity of any necessary modification to the OSW carve-out and annual RPS percentage three years out;

8. Reasonable administrative costs related to the OREC administrator shall be recoverable by the EDCs. An accounting of such costs will be provided by the EDCs in writing on an annual basis to Board staff and rate counsel. Board staff and Rate Counsel shall submit any objections within 60 days; and

9. Any changes proposed by the OREC administrator to a Board-approved system shall be submitted to the Board for approval.

(e) Offshore wind developers, for each qualified OSW project, in addition to any other responsibilities that may be required in the Board Order, shall:

1. Take all reasonable efforts and due diligence to maximize revenues from the qualified OSW project;

2. Establish and maintain a PJM-EIS GATS account to track and document the number of ORECs generated, transferred, and retired.

i. The PJM-EIS GATS account shall serve as the basis of verification of the issuance of one OREC for each MWh of electricity that is generated by the qualified OSW project;

3. Account for all ORECs held in the qualified OSW project's GATS account, which shall be the sole and exclusive property of such approved project and may be transferred to the OREC administrator on behalf of suppliers at the discretion of the project owner;

4. At the end of each month, each OSW developer shall provide to the OREC administrator proof of all ORECs that were issued into their GATS account in that month;

5. At the end of each month, each OSW developer shall submit an invoice to each of the EDCs, who act as the designated payment agent for suppliers, for payment of ORECs. The monthly invoice shall detail the total number of MWhs generated by the project that month and the number ORECs available for sale multiplied by the approved OREC price. The invoice shall also include notice of all project revenues generated that month and due to be refunded to ratepayers;

6. The OREC administrator shall be copied on all monthly invoices sent to the EDCs for payment;

7. A qualified offshore wind project may submit ORECs for payment based on its actual monthly production up to the approved annual OREC allowance. It may exceed the scheduled monthly allowance in a given month, but may not exceed the annual OREC allowance in a given year;

8. A qualified offshore wind project may carry forward any unmet OREC allowances in a given month to the following month; and

9. A qualified offshore wind project may carry forward any unmet annual OREC allowance in a given year to the next year.

(f) Offshore wind developers shall be responsible for the collection and transfer of all project revenues on behalf of ratepayers as follows:

1. A qualified OSW project shall return all revenues associated with the OSW project to ratepayers;

2. All project revenues shall be held in an interest bearing account to be distributed to ratepayers as set forth under this section;

3. A qualified OSW project may hold project revenues including, but not limited to, PJM revenues, which include all revenues paid to the OSW developers by PJM for the sale of electricity, capacity, and ancillary services to the grid, for a period of three months;

4. If held, PJM revenues shall at the expiration of three months, and upon confirmation of receipt by the OSW project of OREC payment for the corresponding MWhs, then be released for refund to ratepayers on a continuing, monthly basis. Any unmet OREC obligation may be covered by the PJM revenues contingent upon at least 10 days prior notice to the OREC administrator;

5. The qualified OSW project shall provide a monthly accounting to the OREC administrator of all project revenues received, held, and distributed;

6. The OREC administrator shall verify that all project revenues not used for an approved use, are refunded to ratepayers;

7. PJM revenues shall be available for use by the qualified OSW project to:

i. Cover the monthly OREC obligation until full payment is made;

ii. Cover OREC payments during the resolution of an event of EDC default, under-payment, or non-payment by the payment agent;

iii. Upon receipt of payment for ORECs, all PJM revenues associated with the OREC are due to be paid with interest to EDCs for refund to ratepayers; and then

iv. For any purpose deemed necessary, during the period in which they are held in an interest bearing account pending payment for the related ORECs, to ensure that all qualified OSW projects receive their full approved OREC revenues on a timely basis, including, but not limited to, covering seasonal mismatches between OREC purchases and OREC production.

14:8-6.7 Annual true up

(a) Concurrent with the RPS compliance report required by N.J.A.C. 14:8-2.11, but no sooner than October 1st following the end of each energy year, an annual true up shall be conducted by the OREC administrator, suppliers, qualified OSW projects, and EDCs, with the oversight of the Board, consisting of the following:

1. Verification of supplier OREC obligation.

i. Each supplier's total annual OREC obligation is calculated based on actual retail sales and the OSW carve-out.

ii. Suppliers shall acquire additional OREC purchases or OACP credit, as necessary, to comply with the OSW carve-out.

iii. If, during the annual true up, the Board determines that a supplier did not meet its OREC obligation, the Board shall initiate whatever action necessary to ensure compliance, in accordance with existing RPS rules.

iv. If a supplier exits the New Jersey market because of bankruptcy or any other reason, the Board shall ensure that the OREC obligation is met for any energy delivered by that supplier, and that any supplier that steps into the exiting supplier's energy delivery obligations also meets the corresponding OREC obligations or the obligation shall be equally redistributed among all suppliers in the following energy year;

2. Verification of the annual OREC allowance.

i. Each qualified OSW project's total OREC submission for the energy year is confirmed as not exceeding its annual OREC allowance under its OREC order and consistent with the projects performance. Monthly OREC allowances may be exceeded, as long as the total OREC allowance is not exceeded.

ii. If it is determined that a qualified OSW projects did not meet its annual OREC allowance, it has the opportunity to submit any ORECs from the current year or banked ORECs to make up the short fall as part of the annual true up, but has no recourse if it does not have the ORECs to provide;

3. Verification of all project revenues.

i. Qualified OSW projects shall confirm or demonstrate to the OREC administrator that all project revenues have been delivered to the EDCs, which are to be refunded to ratepayers, with appropriate exceptions.

ii. Qualified OSW projects shall immediately make up any PJM revenue shortage to the EDCs to be refunded to ratepayers, except to the extent the OSW project retained PJM revenues for an allowable use such as reserve fund;

4. When an OSW project has reached the end of its 20-year term during the energy year, the Board shall confirm that all PJM reserves associated with, or necessary for, the project ending its 20-year term have been submitted to the EDCs to be refunded to ratepayers;

5. The EDCs shall submit as part of their annual SBC filings, the revenues received from the OSW developers as verified by the OREC administrator to be credited to the SBC for the benefit of ratepayers or otherwise credited to the ratepayers as directed by the Board. The OREC administrator shall compare these filings with the annual OREC administrator reports to ensure that all revenues

due to ratepayers were provided to the EDCs and that all of those revenues have been credited to the ratepayers as directed by the Board;

6. The OREC administrator shall review and report on all OREC administrator transactions and accounts, including those that took place during the annual true up. All reports or findings of this review shall be provided to the Board, each of the EDCs, Rate Counsel, and shall be made available to the public on a website;

7. The OREC administrator, in consultation with the Board shall, at the end of the annual true up, conduct a review of the OSW carve-out and annual ratepayer surcharge amount and, if necessary, recommend adjustments to the OSW carve-out and the ratepayer surcharge;

8. All adjustments to the RPS shall be made three years in advance, if at the end of the annual true up it is determined that:

i. All qualified OSW projects have submitted no more than their annual OREC allowance, but have ORECs remaining; and

ii. All suppliers have met their OSW carve-out requirement through the purchase of ORECs. Qualified OSW projects may hold any ORECs for an additional two years or sell the ORECs for Class I RPS compliance;

9. Adjustments to the OSW purchase percentage if set too low, within 30 days following the receipt of a notice of insufficient OREC demand by the OREC administrator, EDC, or a qualified OSW project, the Board shall direct the OREC administrator to adjust the OSW purchase percentage;

10. If the OREC administrator determines that there are not enough ORECs in a given year to meet the suppliers' obligation, and there are no banked ORECs available, the OREC administrator may direct the EDCs, as the suppliers' payment agent, to make OACP payments to satisfy the RPS; and

11. The qualified OSW project shall retain ownership of any excess ORECs. The qualified OSW project, at its sole discretion, may use excess ORECs in either of the following ways:

i. Hold the excess ORECs in order to submit them to the EDC for payment in a future month or year in which the project might have a production deficit; or

ii. Apply the excess ORECs toward the OSW carve-out during the OREC lifetime.

TRANSPORTATION

(a)

DIVISION OF MULTIMODAL SERVICES
BUREAU OF AERONAUTICS
Licensing of Aeronautical Activities
Proposed Amendments: N.J.A.C. 16:55-3.2, 6.1, and 6.2

Authorized By: Diane Gutierrez-Scaccetti, Commissioner, Department of Transportation.

Authority: N.J.S.A. 6:1-29, 6:1-43, 6:1-44, 27:1A-5, and 27:1A-6.

Calendar Reference: See Summary below for explanation of exception to calendar requirement.

Proposal Number: PRN 2018-073.

Submit written comments by October 19, 2018, to:

Paul F. Sprewell
Administrative Practice Officer
New Jersey Department of Transportation
PO Box 600
Trenton, NJ 08625-0600
Fax: (609) 530-4638
Submit electronically at njdotRules@dot.state.nj.us.

This rule may be viewed or downloaded from the Department's website at http://www.state.nj.us/transportation/about/rules/proposals.shtm.

The agency proposal follows

Summary

The rules found at N.J.A.C. 16:55 govern aeronautical activities required to be licensed in the State of New Jersey. The activities are generally conducted at locations away from an airport and include aerial advertising, aerial application of fertilizers for agricultural uses, aerial mosquito control, and operation of parachute centers. The Department of Transportation (Department) proposes amendments necessary to clarify provisions related to banner towing and to update contact information and to provide information related to appeals and contested cases.

The proposed amendments are as follows:

N.J.A.C. 16:55-3.2(a)1viii is proposed for amendment to clarify the provisions related to banner towing both on and off an airport. Applicants are now required to submit a scaled area photograph in addition to a sketch of the proposed banner pickup and drop area(s) for locations both on and off airports. Several of the airports governed by this rule cannot support banner tow operations at the airport itself due to changes in the location of banner tow areas. In one instance, hangers were built where the pickup and drop off areas were located. New areas were chosen that the Department determined caused safety concerns. For locations off an airport, the sketch and photograph must include depictions of any obstructions within 500 feet of the pickup and drop areas. The location may be inspected by the Bureau and may require FAA approval to determine suitability.

N.J.A.C. 16:55-6.1(a) is proposed for amendment to simplify language and to delete language related to court reporters, as such is unnecessary. N.J.A.C. 16:55-6.1(b) is proposed for amendment to add contact information. N.J.A.C. 16:55-6.1(c) is proposed for amendment to clarify the informal hearing process. Proposed new N.J.A.C. 16:55-6.1(d) is added to provide that applicants and licensees will be notified in writing if a request for a hearing is denied. Recodified N.J.A.C. 16:55-6.1(e) is proposed for amendment for clarity. Existing N.J.A.C. 16:55-6.1(e), (f), (g), and (h) are proposed for deletion because the processes are no longer completed under current Department policy. Proposed new N.J.A.C. 16:55-6.1(f) is added to establish that the licensee or applicant will receive a written decision within 30 calendar days of the informal hearing. Recodified N.J.A.C. 16:55-6.1(g) is proposed for amendment for clarity. Proposed new N.J.A.C. 16:55-6.1(h) is added to establish provisions for appeals of the decisions from informal hearings.

N.J.A.C. 16:55-6.2(a) is proposed for amendment to clarify language. Proposed new N.J.A.C. 16:55-6.2(b), (c), (d), and (e) set time limits for the supplying of the judges initial decision, exceptions to the decision, response to the exceptions, and final written agency action. Existing subsection (b) is recodified as new subsection (f).

This notice of proposal is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5, since the Department is providing a 60-day comment period for this notice.

Social Impact

The proposed amendments promote public confidence in the State by demonstrating the State's responsibility in ensuring aviation safety. The rules establish standards commensurate with the needs of public safety, the safety of persons operating or using aircraft, and the safety of persons and property on the ground.

Economic Impact

The economic impact of maintaining public safety for the conduct of aeronautical activities cannot be specifically determined. However, accidents and injuries are prevented by these safety measures, thus decreasing potential medical costs and property damages. In addition, promotion of aeronautical activities has the potential to generate revenue for the State's economy. The proposed amendments will have a positive economic impact. License applicants may incur costs relating to the requirement for scaled aerial photographs.

Federal Standards Statement

The proposed amendments are governed by State law. The rules meet, but do not exceed, any Federal law, standards, or requirements. Therefore, a Federal standards analysis pursuant to Executive Order No. 27 (1994), P.L. 1995, c. 65, is not required.

Attachment Seven: Standard Inputs for Cost-Benefit Analysis

STANDARDIZED INPUTS FOR COST-BENEFIT ANALYSIS

This document describes the background and creation of standardized inputs for applicants to use in applying to sell Offshore Wind RECs (ORECs) to the State. These inputs and methods apply specifically to the cost-benefit analysis that all bidders must submit under N.J.A.C 14:8-6.5.(a).(11).

The goal of these inputs is to provide a common set of methods and assumptions for applicants so that evaluators may review projects on a comparable basis. While the cost-benefit analysis must use these inputs, **bidders may still provide alternative valuations using inputs they feel are reasonable.** Any such analyses should be supported by a detailed description of what was done and work papers that would allow evaluators to reproduce any such analyses.

The price projections are included at the end of this document and will also be available as a separate file on the procurement website.

Energy Revenues

Energy revenues represent a significant but uncertain source of revenue for the project. The process used to create these price estimates is explained below.

- To create an energy price estimate we start with the cost of peak monthly energy futures at PJM's Western Hub from the NYMEX/Clearport exchange.[1] These quotes go out through the end of 2021. The prices for that year (as of August 24, 2018) are shown in Table One below.

- To create monthly off-peak prices we multiply the monthly prices times a historic ratio of on-peak to off-peak prices. The ratio is taken from the New Jersey Electric Distribution Company (EDC) retail rate impact models, posted on the New Jersey Basic Generation Service (BGS) Auction website.[2] These are public and calculated by each EDC based on three years of historical data. These are also shown in the table below, specifically for PSE&G.

[1] https://www.cmegroup.com/trading/energy/electricity/pjm-western-hub-peak-calendar-month-real-time-lmp_quotes_settlements_futures.html#tradeDate=08%2F24%2F2018

[2] http://www.bgs-auction.com/bgs.dataroom.occ.asp. See the "BGS RSCP Pricing Factors" models.

- This gives us a set of peak and off-peak prices at PJM's Western Hub (in western Pennsylvania). To create estimates for New Jersey we multiply these prices times the historic differential between the Western Hub and a specific EDC's zone. Again, these are provided in the EDC rate models, based off of three years of data, and shown below, specifically for PSE&G.

TABLE ONE
ENERGY PRICE BUILDUP

Month	Peak Western Hub Price ($/MWh)[1]	On/Off-Peak Ratio[2]	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)[2]	Hub to Zone Ratio (Off Peak)[2]	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price
21-Jan	$ 46.73	0.7756	$ 36.24	95%	95%	$ 44.38	$ 34.37
21-Feb	$ 43.95	0.7756	$ 34.09	95%	95%	$ 41.74	$ 32.33
21-Mar	$ 35.32	0.7756	$ 27.39	95%	95%	$ 33.54	$ 25.98
21-Apr	$ 31.05	0.7756	$ 24.08	95%	95%	$ 29.49	$ 22.84
21-May	$ 30.95	0.7756	$ 24.01	95%	95%	$ 29.39	$ 22.76
21-Jun	$ 30.95	0.6401	$ 19.81	93%	86%	$ 28.83	$ 17.10
21-Jul	$ 37.11	0.6401	$ 23.76	93%	86%	$ 34.56	$ 20.51
21-Aug	$ 33.83	0.6401	$ 21.66	93%	86%	$ 31.51	$ 18.69
21-Sep	$ 30.76	0.6401	$ 19.69	93%	86%	$ 28.65	$ 17.00
21-Oct	$ 28.47	0.7756	$ 22.08	95%	95%	$ 27.04	$ 20.94
21-Nov	$ 28.47	0.7756	$ 22.08	95%	95%	$ 27.04	$ 20.94
21-Dec	$ 31.60	0.7756	$ 24.51	95%	95%	$ 30.01	$ 23.24

1 https://www.cmegroup.com/trading/energy/electricity/pjm-western-hub-peak-calendar-month-real-time-lmp_quotes_settlements_futures.html#tradeDate=08%2F24%2F2018

2 http://www.bgs-auction.com/bgs.dataroom.occ.asp "2019_PSE&G_BGS_RSCP_Rate_Spreadsheet_29_June_2018.xls"")

To project prices farther out we utilize a forecast of price growth. For this, we turn to the latest Annual Energy Outlook (AEO) produced by the US Energy Information Administration (EIA). The 2018 AEO produces a number of projections regarding energy use, prices, capacity, emissions, and other items. For this analysis we can take the projected growth of the nominal cost of generation in the RFC East (Eastern PJM) zone. The current base or "reference" case for

the AEO predicts a rate of growth per year for this area from 2017 through 2050.[3] Using this, our forecast escalates each year by the forecast annual growth rate for that specific year.

This forecast is done on an EDC-specific basis and bidders should use the zone of the EDC that they will deliver power to. In other words, if the project is going to connect into Atlantic Electric's territory it should use the on/off peak ratios and hub/zone differentials from Atlantic's models. If the project is connecting into PSE&G's territory it should use PSE&G's inputs. This helps account for the locational difference in market prices.

Net Output

With prices for each month and on and off peak period the bidder should then multiply their projected net output **at the P(50) value** for each on and off-peak period in each month to determine an estimate of energy market revenues. We use P(50) since this is the average output the project could expect over its lifetime.

Capacity Revenues

Ideally, any qualified offshore wind project will sell capacity into PJM's Reliability Pricing Model (RPM) Auction. Prices in that auction vary by year and by location with prices in PSE&G's territory being typically higher than elsewhere. Prices are set for one year three years ahead of time, so it's possible that a project could at least know its first year capacity value and use that value in their analysis. However, prices after that are generally harder to predict as they depend on new entry, plant retirements, PJM estimates of transmission constraints and load growth. Given this complexity we use a simple method using the historical record to set a price for capacity by zone and simply escalating the result by inflation. For example, the average resulting capacity price from the RPM Auction for the past five years in the PSE&G zone is $188.61/MW-day.[4] For the Atlantic Electric Zone the number is $165.30/MW-day. For ease of use we round these numbers to $190/MW-day and $165/MW-day. Prices for subsequent years are simply escalated out at 2% to reflect inflation.

Another factor with renewable projects in PJM is the quantity of capacity they are allowed to sell. PJM currently measures the capacity contribution of a wind facility by taking their average summer capacity factor over the most recent three years of operation. If no data is available for a given year then the project must use the PJM class average wind capacity factor, which is

[3] https://www.eia.gov/outlooks/aeo/data/browser/#/?id=62-AEO2018&region=3-9&cases=ref2018&start=2016&end=2050&f=A&linechart=ref2018-d121317a.5-62-AEO2018.3-9&map=&sourcekey=0

[4] This reflects small adjustments for incremental auctions, which take place each year between the initial RPM auction and the delivery year.

currently 17.6%.[5] The bidder should use this method, using the unit's net maximum capacity and assuming the project hits it's P(50) summer capacity factor in each operating year. So a 100 MW project would provide 17.6 MW of capacity the first year. Starting in year four the project's capacity contribution would be 100 MW times the P(50) summer net capacity factor.[6] Just to give a sense of how much this would contribute to project value, at $160/MW-day a 100 MW wind facility with a 30% summer P(50) capacity factor would earn about $6.67/MWh.[7]

Class 1 RECs

Under New Jersey law each OREC is counted as a Class 1 REC, meaning that every OREC purchased is one less Class 1 REC that must be procured. Therefore the avoided cost of Class 1 RECs is a benefit created by the project. To estimate the value of this benefit we start with a value of $13/REC in energy year 2017 (June 2016—May 2017). This is roughly the weighted average price of Class 1 RECs for that time as reported in the EY2018 Compliance presentation.[8] This value is simply escalated by 2% each year as a rough proxy for inflation). So, for example, the Energy year 2022 price would be 13*(1+.02)^5 or $14.35/REC. Bidders should assume their net P(50) output for the purpose of calculating avoided Class 1 REC benefits.

Ancillary Services

No ancillary services revenues be should attributed to the project.

Discount Rate

In assessing the impacts of each project we wish to see the costs and benefits or each project on a net present value basis. For this exercise bidders should calculate costs and benefits be calculated on a nominal basis and discounted using a rate of 7%.

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[5] Available at http://www.pjm.com/-/media/planning/res-adeq/class-average-wind-capacity-factors.ashx?la=en. This is the factor for wind in "open/flat terrain".

[6] Years 2-3 would be a blended rate. For example, with a 30% P(50) capacity factor, year 2's capacity contribution would be (17.8+17.8+30)/3 or 21.87 MW.

[7] The math here is ($160MW/day*365 days*30 MW)/(8760*.3*100)=$6.67/MWh. If the project were a standard combined cycle it would get credit for a full 100 MW of capacity and earn $22.22/MWh.

[8] Available at http://www.njcleanenergy.com/renewable-energy/program-updates/rps-compliance-reports. The actual value is on slide 7 and is $13.14/REC.

Attachment One - Energy Price Buildup

Month	Peak Western Hub Price ($/MWh)	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)^2	Hub to Zone Ratio (Off Peak)^2	Final JCP&L On-Peak Price	Final JCP&L Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final ACE On-Peak Price	Final ACE Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final RECO On-Peak Price	Final RECO Off-Peak Price
Jan-21	$ 46.73	0.7756	$ 36.24	95%	95%	$ 44.38	$ 34.37	0.7756	$ 36.24	0.9139	0.92811	$ 42.71	$ 33.64	0.7756	$ 36.24	0.91667	0.9294	$ 42.84	$ 33.69	0.77561	$ 36.24	0.9□7	0.939	$ 44.24	$ 34.05
Feb-21	$ 43.95	0.7756	$ 34.09	95%	95%	$ 41.74	$ 32.33	0.7756	$ 34.09	0.9139	0.92811	$ 40.17	$ 31.64	0.7756	$ 34.09	0.91667	0.9294	$ 40.29	$ 31.68	0.77561	$ 34.09	0.9□7	0.939	$ 41.61	$ 32.02
Mar-21	$ 35.32	0.7756	$ 27.39	95%	95%	$ 33.54	$ 25.98	0.7756	$ 27.39	0.9139	0.92811	$ 32.28	$ 25.43	0.7756	$ 27.39	0.91667	0.9294	$ 32.38	$ 25.46	0.77561	$ 27.39	0.9□7	0.939	$ 33.44	$ 25.73
Apr-21	$ 31.05	0.7756	$ 24.08	95%	95%	$ 29.49	$ 22.84	0.7756	$ 24.08	0.9139	0.92811	$ 28.38	$ 22.35	0.7756	$ 24.08	0.91667	0.9294	$ 28.46	$ 22.38	0.77561	$ 24.08	0.9□7	0.939	$ 29.40	$ 22.62
May-18	$ 30.95	0.7756	$ 24.01	95%	95%	$ 29.39	$ 22.76	0.7756	$ 24.01	0.9139	0.92811	$ 28.29	$ 22.28	0.7756	$ 24.01	0.91667	0.9294	$ 28.37	$ 22.31	0.77561	$ 24.01	0.9□7	0.939	$ 29.30	$ 22.55
Jun-18	$ 30.95	0.6401	$ 19.81	93%	86%	$ 28.83	$ 17.10	0.6401	$ 19.81	0.92063	0.85282	$ 28.49	$ 16.90	0.6401	$ 19.81	0.9363	0.87027	$ 28.98	$ 17.24	0.64015	$ 19.81	0.9□2	0.872	$ 28.84	$ 17.28
Jul-18	$ 37.11	0.6401	$ 23.76	93%	86%	$ 34.56	$ 20.51	0.6401	$ 23.76	0.92063	0.85282	$ 34.16	$ 20.26	0.6401	$ 23.76	0.9363	0.87027	$ 34.75	$ 20.67	0.64015	$ 23.76	0.9□2	0.872	$ 34.58	$ 20.72
Aug-18	$ 33.83	0.6401	$ 21.66	93%	86%	$ 31.51	$ 18.69	0.6401	$ 21.66	0.92063	0.85282	$ 31.14	$ 18.47	0.6401	$ 21.66	0.9363	0.87027	$ 31.68	$ 18.85	0.64015	$ 21.66	0.9□2	0.872	$ 31.52	$ 18.89
Sep-18	$ 30.76	0.6401	$ 19.69	93%	86%	$ 28.65	$ 17.00	0.6401	$ 19.69	0.92063	0.85282	$ 28.32	$ 16.79	0.6401	$ 19.69	0.9363	0.87027	$ 28.80	$ 17.14	0.64015	$ 19.69	0.9□2	0.872	$ 28.66	$ 17.18
Oct-18	$ 28.47	0.7756	$ 22.08	95%	95%	$ 27.04	$ 20.94	0.7756	$ 22.08	0.9139	0.92811	$ 26.02	$ 20.49	0.7756	$ 22.08	0.91667	0.9294	$ 26.10	$ 20.52	0.77561	$ 22.08	0.9□7	0.939	$ 26.95	$ 20.74
Nov-18	$ 28.47	0.7756	$ 22.08	95%	95%	$ 27.04	$ 20.94	0.7756	$ 22.08	0.9139	0.92811	$ 26.02	$ 20.49	0.7756	$ 22.08	0.91667	0.9294	$ 26.10	$ 20.52	0.77561	$ 22.08	0.9□7	0.939	$ 26.95	$ 20.74
Dec-18	$ 31.60	0.7756	$ 24.51	95%	95%	$ 30.01	$ 23.24	0.7756	$ 24.51	0.9139	0.92811	$ 28.88	$ 22.75	0.7756	$ 24.51	0.91667	0.9294	$ 28.97	$ 22.78	0.77561	$ 24.51	0.9□7	0.939	$ 29.92	$ 23.02
Jan-22						$ 44.81	$ 34.70					$ 43.12	$ 33.97					$ 43.25	$ 34.01					$ 44.67	$ 34.38
Feb-22						$ 42.14	$ 32.64					$ 40.56	$ 31.95					$ 40.68	$ 31.99					$ 42.01	$ 32.33
Mar-22						$ 33.87	$ 26.23					$ 32.59	$ 25.67					$ 32.69	$ 25.71					$ 33.76	$ 25.98
Apr-22						$ 29.77	$ 23.06					$ 28.65	$ 22.57					$ 28.74	$ 22.60					$ 29.68	$ 22.84
May-22						$ 29.68	$ 22.98					$ 28.56	$ 22.50					$ 28.65	$ 22.53					$ 29.59	$ 22.77
Jun-22						$ 29.11	$ 17.27					$ 28.77	$ 17.06					$ 29.26	$ 17.41					$ 29.12	$ 17.45
Jul-22						$ 34.90	$ 20.71					$ 34.50	$ 20.46					$ 35.08	$ 20.87					$ 34.92	$ 20.92
Aug-22						$ 31.81	$ 18.88					$ 31.45	$ 18.65					$ 31.98	$ 19.03					$ 31.83	$ 19.07
Sep-22						$ 28.93	$ 17.16					$ 28.59	$ 16.96					$ 29.08	$ 17.30					$ 28.94	$ 17.34
Oct-22						$ 27.30	$ 21.14					$ 26.27	$ 20.69					$ 26.35	$ 20.72					$ 27.22	$ 20.94
Nov-22						$ 27.30	$ 21.14					$ 26.27	$ 20.69					$ 26.35	$ 20.72					$ 27.22	$ 20.94
Dec-22						$ 30.30	$ 23.47					$ 29.16	$ 22.97					$ 29.25	$ 23.00					$ 30.21	$ 23.25
Jan-23						$ 45.90	$ 35.55					$ 44.17	$ 34.79					$ 44.30	$ 34.84					$ 45.76	$ 35.21
Feb-23						$ 43.17	$ 33.43					$ 41.54	$ 32.72					$ 41.67	$ 32.77					$ 43.04	$ 33.12
Mar-23						$ 34.69	$ 26.87					$ 33.38	$ 26.30					$ 33.49	$ 26.33					$ 34.58	$ 26.62
Apr-23						$ 30.50	$ 23.62					$ 29.35	$ 23.12					$ 29.44	$ 23.15					$ 30.40	$ 23.40
May-23						$ 30.40	$ 23.54					$ 29.25	$ 23.04					$ 29.34	$ 23.07					$ 30.31	$ 23.32
Jun-23						$ 29.81	$ 17.69					$ 29.47	$ 17.48					$ 29.97	$ 17.83					$ 29.83	$ 17.87
Jul-23						$ 35.75	$ 21.21					$ 35.33	$ 20.95					$ 35.94	$ 21.38					$ 35.77	$ 21.43
Aug-23						$ 32.59	$ 19.33					$ 32.21	$ 19.10					$ 32.76	$ 19.49					$ 32.60	$ 19.54
Sep-23						$ 29.63	$ 17.58					$ 29.29	$ 17.37					$ 29.79	$ 17.72					$ 29.65	$ 17.76
Oct-23						$ 27.96	$ 21.66					$ 26.91	$ 21.20					$ 26.99	$ 21.23					$ 27.88	$ 21.45
Nov-23						$ 27.96	$ 21.66					$ 26.91	$ 21.20					$ 26.99	$ 21.23					$ 27.88	$ 21.45
Dec-23						$ 31.04	$ 24.04					$ 29.87	$ 23.53					$ 29.96	$ 23.56					$ 30.94	$ 23.81
Jan-24						$ 47.29	$ 36.63					$ 45.51	$ 35.85					$ 45.65	$ 35.90					$ 47.15	$ 36.28
Feb-24						$ 44.48	$ 34.45					$ 42.80	$ 33.71					$ 42.93	$ 33.76					$ 44.34	$ 34.12
Mar-24						$ 35.74	$ 27.68					$ 34.40	$ 27.09					$ 34.50	$ 27.13					$ 35.63	$ 27.42
Apr-24						$ 31.42	$ 24.34					$ 30.24	$ 23.82					$ 30.33	$ 23.85					$ 31.33	$ 24.11
May-24						$ 31.32	$ 24.26					$ 30.14	$ 23.74					$ 30.23	$ 23.78					$ 31.23	$ 24.03
Jun-24						$ 30.72	$ 18.23					$ 30.36	$ 18.01					$ 30.88	$ 18.37					$ 30.73	$ 18.42
Jul-24						$ 36.83	$ 21.85					$ 36.41	$ 21.59					$ 37.03	$ 22.03					$ 36.85	$ 22.08
Aug-24						$ 33.58	$ 19.92					$ 33.19	$ 19.68					$ 33.75	$ 20.08					$ 33.59	$ 20.13
Sep-24						$ 30.53	$ 18.11					$ 30.18	$ 17.90					$ 30.69	$ 18.26					$ 30.55	$ 18.30
Oct-24						$ 28.81	$ 22.31					$ 27.73	$ 21.84					$ 27.81	$ 21.87					$ 28.72	$ 22.10
Nov-24						$ 28.81	$ 22.31					$ 27.73	$ 21.84					$ 27.81	$ 21.87					$ 28.72	$ 22.10
Dec-24						$ 31.98	$ 24.77					$ 30.78	$ 24.24					$ 30.87	$ 24.27					$ 31.88	$ 24.53

Month	Peak Western Hub Price ($/MWh)	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)[2]	Hub to Zone Ratio (Off Peak)[2]	Final JCP&L On-Peak Price	Final JCP&L Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final ACE On-Peak Price	Final ACE Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final RECO On-Peak Price	Final RECO Off-Peak Price
Jan-25						$ 51.73	$ 40.07					$ 49.79	$ 39.22					$ 49.94	$ 39.27					$ 51.58	$ 39.69
Feb-25						$ 48.66	$ 37.68					$ 46.83	$ 36.88					$ 46.97	$ 36.93					$ 48.51	$ 37.33
Mar-25						$ 39.10	$ 30.28					$ 37.63	$ 29.64					$ 37.74	$ 29.68					$ 38.98	$ 30.00
Apr-25						$ 34.37	$ 26.62					$ 33.08	$ 26.06					$ 33.18	$ 26.09					$ 34.27	$ 26.37
May-25						$ 34.26	$ 26.54					$ 32.97	$ 25.97					$ 33.07	$ 26.01					$ 34.16	$ 26.29
Jun-25						$ 33.61	$ 19.94					$ 33.22	$ 19.70					$ 33.78	$ 20.10					$ 33.62	$ 20.15
Jul-25						$ 40.29	$ 23.91					$ 39.83	$ 23.62					$ 40.51	$ 24.10					$ 40.31	$ 24.16
Aug-25						$ 36.73	$ 21.79					$ 36.31	$ 21.53					$ 36.93	$ 21.97					$ 36.75	$ 22.02
Sep-25						$ 33.40	$ 19.82					$ 33.01	$ 19.58					$ 33.58	$ 19.98					$ 33.42	$ 20.02
Oct-25						$ 31.52	$ 24.41					$ 30.33	$ 23.89					$ 30.42	$ 23.93					$ 31.42	$ 24.18
Nov-25						$ 31.52	$ 24.41					$ 30.33	$ 23.89					$ 30.42	$ 23.93					$ 31.42	$ 24.18
Dec-25						$ 34.98	$ 27.10					$ 33.67	$ 26.52					$ 33.77	$ 26.56					$ 34.88	$ 26.84
Jan-26						$ 51.02	$ 39.52					$ 49.10	$ 38.68					$ 49.25	$ 38.73					$ 50.87	$ 39.14
Feb-26						$ 47.98	$ 37.17					$ 46.18	$ 36.38					$ 46.32	$ 36.43					$ 47.84	$ 36.82
Mar-26						$ 38.56	$ 29.87					$ 37.11	$ 29.23					$ 37.22	$ 29.27					$ 38.45	$ 29.59
Apr-26						$ 33.90	$ 26.26					$ 32.63	$ 25.70					$ 32.72	$ 25.73					$ 33.80	$ 26.01
May-26						$ 33.79	$ 26.17					$ 32.52	$ 25.62					$ 32.62	$ 25.65					$ 33.69	$ 25.93
Jun-26						$ 33.14	$ 19.66					$ 32.76	$ 19.43					$ 33.32	$ 19.82					$ 33.16	$ 19.87
Jul-26						$ 39.74	$ 23.58					$ 39.28	$ 23.29					$ 39.95	$ 23.77					$ 39.76	$ 23.82
Aug-26						$ 36.23	$ 21.49					$ 35.81	$ 21.23					$ 36.42	$ 21.67					$ 36.24	$ 21.72
Sep-26						$ 32.94	$ 19.54					$ 32.56	$ 19.31					$ 33.11	$ 19.70					$ 32.96	$ 19.75
Oct-26						$ 31.08	$ 24.08					$ 29.91	$ 23.56					$ 30.01	$ 23.60					$ 30.99	$ 23.85
Nov-26						$ 31.08	$ 24.08					$ 29.91	$ 23.56					$ 30.01	$ 23.60					$ 30.99	$ 23.85
Dec-26						$ 34.50	$ 26.72					$ 33.20	$ 26.15					$ 33.30	$ 26.19					$ 34.40	$ 26.47
Jan-27						$ 54.25	$ 42.02					$ 52.21	$ 41.12					$ 52.36	$ 41.18					$ 54.08	$ 41.62
Feb-27						$ 51.02	$ 39.52					$ 49.10	$ 38.68					$ 49.25	$ 38.73					$ 50.87	$ 39.14
Mar-27						$ 41.00	$ 31.76					$ 39.46	$ 31.08					$ 39.58	$ 31.12					$ 40.88	$ 31.46
Apr-27						$ 36.04	$ 27.92					$ 34.69	$ 27.32					$ 34.79	$ 27.36					$ 35.94	$ 27.65
May-27						$ 35.93	$ 27.83					$ 34.58	$ 27.24					$ 34.68	$ 27.27					$ 35.82	$ 27.57
Jun-27						$ 35.24	$ 20.91					$ 34.83	$ 20.66					$ 35.42	$ 21.08					$ 35.26	$ 21.13
Jul-27						$ 42.25	$ 25.07					$ 41.76	$ 24.77					$ 42.48	$ 25.27					$ 42.27	$ 25.33
Aug-27						$ 38.52	$ 22.85					$ 38.07	$ 22.58					$ 38.72	$ 23.04					$ 38.54	$ 23.09
Sep-27						$ 35.02	$ 20.78					$ 34.62	$ 20.53					$ 35.21	$ 20.95					$ 35.04	$ 21.00
Oct-27						$ 33.05	$ 25.60					$ 31.81	$ 25.05					$ 31.90	$ 25.09					$ 32.95	$ 25.36
Nov-27						$ 33.05	$ 25.60					$ 31.81	$ 25.05					$ 31.90	$ 25.09					$ 32.95	$ 25.36
Dec-27						$ 36.68	$ 28.41					$ 35.30	$ 27.81					$ 35.41	$ 27.85					$ 36.57	$ 28.14
Jan-28						$ 55.76	$ 43.19					$ 53.67	$ 42.27					$ 53.83	$ 42.33					$ 55.59	$ 42.78
Feb-28						$ 52.45	$ 40.62					$ 50.47	$ 39.76					$ 50.63	$ 39.81					$ 52.29	$ 40.24
Mar-28						$ 42.15	$ 32.64					$ 40.56	$ 31.95					$ 40.69	$ 31.99					$ 42.02	$ 32.34
Apr-28						$ 37.05	$ 28.70					$ 35.66	$ 28.09					$ 35.77	$ 28.13					$ 36.94	$ 28.43
May-28						$ 36.93	$ 28.61					$ 35.54	$ 28.00					$ 35.65	$ 28.04					$ 36.82	$ 28.34
Jun-28						$ 36.22	$ 21.49					$ 35.81	$ 21.23					$ 36.41	$ 21.67					$ 36.24	$ 21.72
Jul-28						$ 43.43	$ 25.77					$ 42.93	$ 25.46					$ 43.66	$ 25.98					$ 43.45	$ 26.04
Aug-28						$ 39.59	$ 23.49					$ 39.14	$ 23.21					$ 39.80	$ 23.68					$ 39.61	$ 23.74
Sep-28						$ 36.00	$ 21.36					$ 35.59	$ 21.10					$ 36.19	$ 21.53					$ 36.02	$ 21.58
Oct-28						$ 33.97	$ 26.31					$ 32.70	$ 25.75					$ 32.79	$ 25.79					$ 33.87	$ 26.07
Nov-28						$ 33.97	$ 26.31					$ 32.70	$ 25.75					$ 32.79	$ 25.79					$ 33.87	$ 26.07
Dec-28						$ 37.71	$ 29.21					$ 36.29	$ 28.58					$ 36.40	$ 28.62					$ 37.59	$ 28.93
Jan-29						$ 56.54	$ 43.79					$ 54.41	$ 42.86					$ 54.57	$ 42.92					$ 56.37	$ 43.38
Feb-29						$ 53.17	$ 41.18					$ 51.17	$ 40.31					$ 51.33	$ 40.36					$ 53.01	$ 40.80
Mar-29						$ 42.73	$ 33.10					$ 41.12	$ 32.39					$ 41.25	$ 32.44					$ 42.60	$ 32.79
Apr-29						$ 37.57	$ 29.10					$ 36.15	$ 28.48					$ 36.26	$ 28.52					$ 37.45	$ 28.82
May-29						$ 37.44	$ 29.00					$ 36.04	$ 28.38					$ 36.15	$ 28.42					$ 37.33	$ 28.73
Jun-29						$ 36.73	$ 21.79					$ 36.30	$ 21.53					$ 36.92	$ 21.97					$ 36.74	$ 22.02
Jul-29						$ 44.03	$ 26.13					$ 43.53	$ 25.81					$ 44.27	$ 26.34					$ 44.06	$ 26.40
Aug-29						$ 40.14	$ 23.82					$ 39.68	$ 23.53					$ 40.36	$ 24.01					$ 40.16	$ 24.07
Sep-29						$ 36.50	$ 21.66					$ 36.08	$ 21.39					$ 36.69	$ 21.83					$ 36.52	$ 21.88
Oct-29						$ 34.44	$ 26.68					$ 33.15	$ 26.11					$ 33.25	$ 26.15					$ 34.34	$ 26.43
Nov-29						$ 34.44	$ 26.68					$ 33.15	$ 26.11					$ 33.25	$ 26.15					$ 34.34	$ 26.43
Dec-29						$ 38.23	$ 29.61					$ 36.79	$ 28.98					$ 36.90	$ 29.02					$ 38.12	$ 29.33

Month	Peak Western Hub Price ($/MWh)	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)[2]	Hub to Zone Ratio (Off Peak)[2]	Final JCP&L On-Peak Price	Final JCP&L Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final ACE On-Peak Price	Final ACE Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final RECO On-Peak Price	Final RECO Off-Peak Price
Jan-30						$ 57.28	$ 44.37					$ 55.13	$ 43.42					$ 55.30	$ 43.48					$ 57.11	$ 43.95
Feb-30						$ 53.87	$ 41.73					$ 51.85	$ 40.84					$ 52.01	$ 40.90					$ 53.71	$ 41.34
Mar-30						$ 43.30	$ 33.53					$ 41.67	$ 32.82					$ 41.79	$ 32.87					$ 43.17	$ 33.22
Apr-30						$ 38.06	$ 29.48					$ 36.63	$ 28.85					$ 36.74	$ 28.89					$ 37.95	$ 29.20
May-30						$ 37.94	$ 29.38					$ 36.51	$ 28.76					$ 36.62	$ 28.80					$ 37.82	$ 29.11
Jun-30						$ 37.21	$ 22.08					$ 36.78	$ 21.81					$ 37.41	$ 22.26					$ 37.23	$ 22.31
Jul-30						$ 44.62	$ 26.47					$ 44.10	$ 26.15					$ 44.85	$ 26.69					$ 44.64	$ 26.75
Aug-30						$ 40.67	$ 24.13					$ 40.20	$ 23.84					$ 40.89	$ 24.33					$ 40.69	$ 24.38
Sep-30						$ 36.98	$ 21.94					$ 36.56	$ 21.68					$ 37.18	$ 22.12					$ 37.00	$ 22.17
Oct-30						$ 34.90	$ 27.03					$ 33.59	$ 26.46					$ 33.69	$ 26.49					$ 34.79	$ 26.78
Nov-30						$ 34.90	$ 27.03					$ 33.59	$ 26.46					$ 33.69	$ 26.49					$ 34.79	$ 26.78
Dec-30						$ 38.74	$ 30.00					$ 37.28	$ 29.36					$ 37.39	$ 29.40					$ 38.62	$ 29.72
Jan-31						$ 58.11	$ 45.01					$ 55.93	$ 44.05					$ 56.10	$ 44.11					$ 57.94	$ 44.59
Feb-31						$ 54.66	$ 42.33					$ 52.60	$ 41.43					$ 52.76	$ 41.49					$ 54.49	$ 41.93
Mar-31						$ 43.92	$ 34.02					$ 42.27	$ 33.30					$ 42.40	$ 33.34					$ 43.79	$ 33.70
Apr-31						$ 38.61	$ 29.91					$ 37.16	$ 29.27					$ 37.27	$ 29.31					$ 38.50	$ 29.63
May-31						$ 38.49	$ 29.81					$ 37.04	$ 29.18					$ 37.15	$ 29.22					$ 38.37	$ 29.53
Jun-31						$ 37.75	$ 22.40					$ 37.31	$ 22.13					$ 37.95	$ 22.58					$ 37.77	$ 22.63
Jul-31						$ 45.26	$ 26.85					$ 44.74	$ 26.53					$ 45.50	$ 27.07					$ 45.29	$ 27.14
Aug-31						$ 41.26	$ 24.48					$ 40.79	$ 24.19					$ 41.48	$ 24.68					$ 41.28	$ 24.74
Sep-31						$ 37.52	$ 22.26					$ 37.09	$ 21.99					$ 37.72	$ 22.44					$ 37.54	$ 22.49
Oct-31						$ 35.41	$ 27.42					$ 34.07	$ 26.84					$ 34.18	$ 26.88					$ 35.30	$ 27.16
Nov-31						$ 35.41	$ 27.42					$ 34.07	$ 26.84					$ 34.18	$ 26.88					$ 35.30	$ 27.16
Dec-31						$ 39.30	$ 30.44					$ 37.82	$ 29.79					$ 37.93	$ 29.83					$ 39.18	$ 30.15
Jan-32						$ 58.33	$ 45.17					$ 56.13	$ 44.21					$ 56.30	$ 44.28					$ 58.15	$ 44.75
Feb-32						$ 54.86	$ 42.49					$ 52.79	$ 41.58					$ 52.95	$ 41.64					$ 54.69	$ 42.09
Mar-32						$ 44.08	$ 34.14					$ 42.43	$ 33.42					$ 42.56	$ 33.47					$ 43.95	$ 33.82
Apr-32						$ 38.76	$ 30.02					$ 37.30	$ 29.38					$ 37.41	$ 29.42					$ 38.64	$ 29.73
May-32						$ 38.63	$ 29.92					$ 37.18	$ 29.28					$ 37.29	$ 29.32					$ 38.51	$ 29.64
Jun-32						$ 37.89	$ 22.48					$ 37.45	$ 22.21					$ 38.09	$ 22.66					$ 37.91	$ 22.71
Jul-32						$ 45.43	$ 26.95					$ 44.91	$ 26.63					$ 45.67	$ 27.17					$ 45.45	$ 27.24
Aug-32						$ 41.41	$ 24.57					$ 40.94	$ 24.28					$ 41.63	$ 24.77					$ 41.44	$ 24.83
Sep-32						$ 37.66	$ 22.34					$ 37.22	$ 22.07					$ 37.86	$ 22.52					$ 37.67	$ 22.57
Oct-32						$ 35.53	$ 27.52					$ 34.20	$ 26.94					$ 34.30	$ 26.97					$ 35.43	$ 27.26
Nov-32						$ 35.53	$ 27.52					$ 34.20	$ 26.94					$ 34.30	$ 26.97					$ 35.43	$ 27.26
Dec-32						$ 39.44	$ 30.55					$ 37.96	$ 29.90					$ 38.07	$ 29.94					$ 39.32	$ 30.26
Jan-33						$ 58.77	$ 45.52					$ 56.56	$ 44.55					$ 56.73	$ 44.61					$ 58.59	$ 45.09
Feb-33						$ 55.27	$ 42.81					$ 53.19	$ 41.90					$ 53.36	$ 41.96					$ 55.11	$ 42.41
Mar-33						$ 44.42	$ 34.40					$ 42.75	$ 33.67					$ 42.88	$ 33.72					$ 44.29	$ 34.08
Apr-33						$ 39.05	$ 30.25					$ 37.58	$ 29.60					$ 37.70	$ 29.64					$ 38.93	$ 29.96
May-33						$ 38.92	$ 30.15					$ 37.46	$ 29.51					$ 37.57	$ 29.55					$ 38.81	$ 29.86
Jun-33						$ 38.18	$ 22.65					$ 37.74	$ 22.38					$ 38.38	$ 22.84					$ 38.20	$ 22.89
Jul-33						$ 45.77	$ 27.16					$ 45.25	$ 26.83					$ 46.02	$ 27.38					$ 45.80	$ 27.44
Aug-33						$ 41.73	$ 24.76					$ 41.25	$ 24.46					$ 41.95	$ 24.96					$ 41.75	$ 25.02
Sep-33						$ 37.94	$ 22.51					$ 37.50	$ 22.24					$ 38.14	$ 22.69					$ 37.96	$ 22.75
Oct-33						$ 35.81	$ 27.73					$ 34.46	$ 27.14					$ 34.56	$ 27.18					$ 35.70	$ 27.47
Nov-33						$ 35.81	$ 27.73					$ 34.46	$ 27.14					$ 34.56	$ 27.18					$ 35.70	$ 27.47
Dec-33						$ 39.74	$ 30.78					$ 38.25	$ 30.13					$ 38.36	$ 30.17					$ 39.62	$ 30.49
Jan-34						$ 59.88	$ 46.38					$ 57.63	$ 45.39					$ 57.81	$ 45.46					$ 59.70	$ 45.94
Feb-34						$ 56.32	$ 43.62					$ 54.20	$ 42.69					$ 54.37	$ 42.75					$ 56.15	$ 43.21
Mar-34						$ 45.26	$ 35.06					$ 43.56	$ 34.31					$ 43.69	$ 34.36					$ 45.12	$ 34.73
Apr-34						$ 39.79	$ 30.82					$ 38.29	$ 30.16					$ 38.41	$ 30.20					$ 39.67	$ 30.53
May-34						$ 39.66	$ 30.72					$ 38.17	$ 30.07					$ 38.29	$ 30.11					$ 39.54	$ 30.43
Jun-34						$ 38.90	$ 23.08					$ 38.45	$ 22.80					$ 39.11	$ 23.27					$ 38.92	$ 23.32
Jul-34						$ 46.64	$ 27.67					$ 46.10	$ 27.34					$ 46.89	$ 27.90					$ 46.67	$ 27.96
Aug-34						$ 42.52	$ 25.23					$ 42.03	$ 24.92					$ 42.74	$ 25.43					$ 42.54	$ 25.49
Sep-34						$ 38.66	$ 22.94					$ 38.21	$ 22.66					$ 38.87	$ 23.12					$ 38.68	$ 23.18
Oct-34						$ 36.48	$ 28.26					$ 35.11	$ 27.66					$ 35.22	$ 27.69					$ 36.37	$ 27.99
Nov-34						$ 36.48	$ 28.26					$ 35.11	$ 27.66					$ 35.22	$ 27.69					$ 36.37	$ 27.99
Dec-34						$ 40.49	$ 31.36					$ 38.97	$ 30.70					$ 39.09	$ 30.74					$ 40.37	$ 31.07

Month	Peak Western Hub Price ($/MWh)	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)[2]	Hub to Zone Ratio (Off Peak)[2]	Final JCP&L On-Peak Price	Final JCP&L Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final ACE On-Peak Price	Final ACE Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final RECO On-Peak Price	Final RECO Off-Peak Price
Jan-35						$ 61.18	$ 47.38					$ 58.88	$ 46.38					$ 59.05	$ 46.44					$ 60.99	$ 46.94
Feb-35						$ 57.54	$ 44.56					$ 55.37	$ 43.62					$ 55.54	$ 43.68					$ 57.36	$ 44.15
Mar-35						$ 46.24	$ 35.81					$ 44.50	$ 35.05					$ 44.64	$ 35.10					$ 46.10	$ 35.48
Apr-35						$ 40.65	$ 31.48					$ 39.12	$ 30.81					$ 39.24	$ 30.86					$ 40.53	$ 31.19
May-35						$ 40.52	$ 31.38					$ 39.00	$ 30.72					$ 39.11	$ 30.76					$ 40.40	$ 31.09
Jun-35						$ 39.74	$ 23.58					$ 39.28	$ 23.29					$ 39.95	$ 23.77					$ 39.76	$ 23.82
Jul-35						$ 47.65	$ 28.27					$ 47.10	$ 27.93					$ 47.90	$ 28.50					$ 47.67	$ 28.57
Aug-35						$ 43.44	$ 25.77					$ 42.94	$ 25.46					$ 43.67	$ 25.98					$ 43.46	$ 26.04
Sep-35						$ 39.50	$ 23.43					$ 39.04	$ 23.15					$ 39.71	$ 23.62					$ 39.52	$ 23.68
Oct-35						$ 37.27	$ 28.87					$ 35.87	$ 28.25					$ 35.98	$ 28.29					$ 37.16	$ 28.60
Nov-35						$ 37.27	$ 28.87					$ 35.87	$ 28.25					$ 35.98	$ 28.29					$ 37.16	$ 28.60
Dec-35						$ 41.37	$ 32.04					$ 39.81	$ 31.36					$ 39.93	$ 31.40					$ 41.24	$ 31.74
Jan-36						$ 63.28	$ 49.01					$ 60.90	$ 47.97					$ 61.08	$ 48.04					$ 63.09	$ 48.55
Feb-36						$ 59.51	$ 46.10					$ 57.28	$ 45.11					$ 57.45	$ 45.18					$ 59.33	$ 45.66
Mar-36						$ 47.83	$ 37.04					$ 46.03	$ 36.26					$ 46.17	$ 36.31					$ 47.68	$ 36.70
Apr-36						$ 42.05	$ 32.57					$ 40.46	$ 31.87					$ 40.59	$ 31.92					$ 41.92	$ 32.26
May-36						$ 41.91	$ 32.46					$ 40.33	$ 31.77					$ 40.46	$ 31.81					$ 41.78	$ 32.16
Jun-36						$ 41.11	$ 24.39					$ 40.63	$ 24.09					$ 41.32	$ 24.59					$ 41.13	$ 24.64
Jul-36						$ 49.29	$ 29.24					$ 48.72	$ 28.89					$ 49.55	$ 29.48					$ 49.31	$ 29.55
Aug-36						$ 44.93	$ 26.66					$ 44.41	$ 26.34					$ 45.17	$ 26.88					$ 44.95	$ 26.94
Sep-36						$ 40.85	$ 24.24					$ 40.38	$ 23.95					$ 41.07	$ 24.44					$ 40.87	$ 24.49
Oct-36						$ 38.55	$ 29.86					$ 37.10	$ 29.22					$ 37.21	$ 29.27					$ 38.44	$ 29.58
Nov-36						$ 38.55	$ 29.86					$ 37.10	$ 29.22					$ 37.21	$ 29.27					$ 38.44	$ 29.58
Dec-36						$ 42.79	$ 33.14					$ 41.18	$ 32.44					$ 41.31	$ 32.48					$ 42.66	$ 32.83
Jan-37						$ 64.81	$ 50.19					$ 62.37	$ 49.13					$ 62.56	$ 49.20					$ 64.61	$ 49.72
Feb-37						$ 60.95	$ 47.21					$ 58.66	$ 46.20					$ 58.84	$ 46.27					$ 60.77	$ 46.76
Mar-37						$ 48.98	$ 37.94					$ 47.14	$ 37.13					$ 47.28	$ 37.18					$ 48.84	$ 37.58
Apr-37						$ 43.06	$ 33.35					$ 41.44	$ 32.64					$ 41.57	$ 32.69					$ 42.93	$ 33.04
May-37						$ 42.92	$ 33.24					$ 41.31	$ 32.54					$ 41.43	$ 32.58					$ 42.79	$ 32.93
Jun-37						$ 42.10	$ 24.98					$ 41.61	$ 24.68					$ 42.32	$ 25.18					$ 42.12	$ 25.24
Jul-37						$ 50.48	$ 29.95					$ 49.89	$ 29.59					$ 50.74	$ 30.19					$ 50.50	$ 30.26
Aug-37						$ 46.02	$ 27.30					$ 45.48	$ 26.97					$ 46.26	$ 27.52					$ 46.04	$ 27.59
Sep-37						$ 41.84	$ 24.82					$ 41.36	$ 24.52					$ 42.06	$ 25.03					$ 41.86	$ 25.08
Oct-37						$ 39.48	$ 30.58					$ 38.00	$ 29.93					$ 38.11	$ 29.97					$ 39.36	$ 30.29
Nov-37						$ 39.48	$ 30.58					$ 38.00	$ 29.93					$ 38.11	$ 29.97					$ 39.36	$ 30.29
Dec-37						$ 43.82	$ 33.94					$ 42.18	$ 33.22					$ 42.30	$ 33.27					$ 43.69	$ 33.62
Jan-38						$ 66.77	$ 51.71					$ 64.26	$ 50.61					$ 64.45	$ 50.68					$ 66.57	$ 51.23
Feb-38						$ 62.80	$ 48.64					$ 60.43	$ 47.60					$ 60.62	$ 47.67					$ 62.61	$ 48.18
Mar-38						$ 50.46	$ 39.09					$ 48.57	$ 38.25					$ 48.71	$ 38.31					$ 50.31	$ 38.72
Apr-38						$ 44.36	$ 34.36					$ 42.70	$ 33.63					$ 42.82	$ 33.68					$ 44.23	$ 34.04
May-38						$ 44.22	$ 34.25					$ 42.56	$ 33.52					$ 42.69	$ 33.57					$ 44.09	$ 33.93
Jun-38						$ 43.37	$ 25.73					$ 42.87	$ 25.42					$ 43.60	$ 25.94					$ 43.39	$ 26.00
Jul-38						$ 52.00	$ 30.85					$ 51.40	$ 30.48					$ 52.28	$ 31.11					$ 52.03	$ 31.18
Aug-38						$ 47.41	$ 28.13					$ 46.86	$ 27.79					$ 47.66	$ 28.36					$ 47.43	$ 28.42
Sep-38						$ 43.11	$ 25.57					$ 42.61	$ 25.27					$ 43.33	$ 25.78					$ 43.13	$ 25.84
Oct-38						$ 40.68	$ 31.51					$ 39.15	$ 30.84					$ 39.27	$ 30.88					$ 40.56	$ 31.21
Nov-38						$ 40.68	$ 31.51					$ 39.15	$ 30.84					$ 39.27	$ 30.88					$ 40.56	$ 31.21
Dec-38						$ 45.15	$ 34.97					$ 43.45	$ 34.23					$ 43.58	$ 34.27					$ 45.01	$ 34.64
Jan-39						$ 69.07	$ 53.50					$ 66.48	$ 52.36					$ 66.68	$ 52.43					$ 68.87	$ 53.00
Feb-39						$ 64.97	$ 50.32					$ 62.52	$ 49.25					$ 62.71	$ 49.32					$ 64.77	$ 49.84
Mar-39						$ 52.21	$ 40.44					$ 50.25	$ 39.58					$ 50.40	$ 39.63					$ 52.05	$ 40.06
Apr-39						$ 45.90	$ 35.55					$ 44.17	$ 34.79					$ 44.30	$ 34.84					$ 45.76	$ 35.21
May-39						$ 45.75	$ 35.43					$ 44.03	$ 34.68					$ 44.16	$ 34.73					$ 45.61	$ 35.10
Jun-39						$ 44.87	$ 26.62					$ 44.35	$ 26.30					$ 45.11	$ 26.84					$ 44.89	$ 26.90
Jul-39						$ 53.80	$ 31.92					$ 53.18	$ 31.54					$ 54.09	$ 32.18					$ 53.83	$ 32.25
Aug-39						$ 49.05	$ 29.10					$ 48.48	$ 28.75					$ 49.31	$ 29.34					$ 49.07	$ 29.40
Sep-39						$ 44.59	$ 26.46					$ 44.08	$ 26.14					$ 44.83	$ 26.67					$ 44.62	$ 26.74
Oct-39						$ 42.08	$ 32.59					$ 40.50	$ 31.90					$ 40.62	$ 31.95					$ 41.96	$ 32.29
Nov-39						$ 42.08	$ 32.59					$ 40.50	$ 31.90					$ 40.62	$ 31.95					$ 41.96	$ 32.29
Dec-39						$ 46.71	$ 36.18					$ 44.95	$ 35.41					$ 45.09	$ 35.46					$ 46.57	$ 35.84

Month	Peak Western Hub Price ($/MWh)	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final PSE&G On-Peak Price	Final PSE&G Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)[2]	Hub to Zone Ratio (Off Peak)[2]	Final JCP&L On-Peak Price	Final JCP&L Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final ACE On-Peak Price	Final ACE Off-Peak Price	On/Off-Peak Ratio	Off-Peak Western Hub Price ($/MWh)	Hub to Zone Ratio (On Peak)	Hub to Zone Ratio (Off Peak)	Final RECO On-Peak Price	Final RECO Off-Peak Price
Jan-40						$ 71.41	$ 55.31					$ 68.72	$ 54.13					$ 68.93	$ 54.21					$ 71.19	$ 54.79
Feb-40						$ 67.16	$ 52.02					$ 64.64	$ 50.91					$ 64.83	$ 50.98					$ 66.96	$ 51.53
Mar-40						$ 53.97	$ 41.80					$ 51.94	$ 40.91					$ 52.10	$ 40.97					$ 53.81	$ 41.41
Apr-40						$ 47.45	$ 36.75					$ 45.66	$ 35.97					$ 45.80	$ 36.02					$ 47.31	$ 36.40
May-40						$ 47.30	$ 36.63					$ 45.52	$ 35.85					$ 45.65	$ 35.90					$ 47.15	$ 36.29
Jun-40						$ 46.39	$ 27.52					$ 45.85	$ 27.19					$ 46.63	$ 27.75					$ 46.41	$ 27.81
Jul-40						$ 55.62	$ 33.00					$ 54.98	$ 32.60					$ 55.91	$ 33.27					$ 55.65	$ 33.34
Aug-40						$ 50.70	$ 30.08					$ 50.12	$ 29.72					$ 50.97	$ 30.33					$ 50.73	$ 30.40
Sep-40						$ 46.10	$ 27.35					$ 45.57	$ 27.02					$ 46.35	$ 27.58					$ 46.13	$ 27.64
Oct-40						$ 43.51	$ 33.70					$ 41.87	$ 32.98					$ 42.00	$ 33.03					$ 43.37	$ 33.38
Nov-40						$ 43.51	$ 33.70					$ 41.87	$ 32.98					$ 42.00	$ 33.03					$ 43.37	$ 33.38
Dec-40						$ 48.29	$ 37.40					$ 46.47	$ 36.61					$ 46.61	$ 36.66					$ 48.14	$ 37.05
Jan-41						$ 73.40	$ 56.85					$ 70.64	$ 55.64					$ 70.85	$ 55.71					$ 73.17	$ 56.31
Feb-41						$ 69.03	$ 53.46					$ 66.43	$ 52.33					$ 66.63	$ 52.40					$ 68.82	$ 52.96
Mar-41						$ 55.47	$ 42.97					$ 53.39	$ 42.05					$ 53.55	$ 42.11					$ 55.31	$ 42.56
Apr-41						$ 48.77	$ 37.77					$ 46.93	$ 36.97					$ 47.08	$ 37.02					$ 48.62	$ 37.42
May-41						$ 48.61	$ 37.65					$ 46.78	$ 36.85					$ 46.92	$ 36.90					$ 48.46	$ 37.30
Jun-41						$ 47.68	$ 28.29					$ 47.13	$ 27.95					$ 47.93	$ 28.52					$ 47.70	$ 28.58
Jul-41						$ 57.17	$ 33.92					$ 56.51	$ 33.51					$ 57.47	$ 34.19					$ 57.20	$ 34.27
Aug-41						$ 52.11	$ 30.92					$ 51.51	$ 30.55					$ 52.39	$ 31.17					$ 52.14	$ 31.24
Sep-41						$ 47.38	$ 28.11					$ 46.84	$ 27.77					$ 47.64	$ 28.34					$ 47.41	$ 28.41
Oct-41						$ 44.72	$ 34.63					$ 43.03	$ 33.90					$ 43.16	$ 33.94					$ 44.58	$ 34.31
Nov-41						$ 44.72	$ 34.63					$ 43.03	$ 33.90					$ 43.16	$ 33.94					$ 44.58	$ 34.31
Dec-41						$ 49.63	$ 38.44					$ 47.77	$ 37.62					$ 47.91	$ 37.68					$ 49.48	$ 38.08
Jan-42						$ 75.05	$ 58.13					$ 72.23	$ 56.89					$ 72.45	$ 56.97					$ 74.82	$ 57.58
Feb-42						$ 70.58	$ 54.67					$ 67.93	$ 53.51					$ 68.14	$ 53.58					$ 70.37	$ 54.16
Mar-42						$ 56.72	$ 43.93					$ 54.59	$ 43.00					$ 54.76	$ 43.06					$ 56.55	$ 43.52
Apr-42						$ 49.87	$ 38.62					$ 47.99	$ 37.80					$ 48.14	$ 37.85					$ 49.72	$ 38.26
May-42						$ 49.71	$ 38.50					$ 47.84	$ 37.68					$ 47.98	$ 37.73					$ 49.56	$ 38.14
Jun-42						$ 48.75	$ 28.92					$ 48.19	$ 28.58					$ 49.01	$ 29.16					$ 48.78	$ 29.23
Jul-42						$ 58.45	$ 34.68					$ 57.78	$ 34.26					$ 58.76	$ 34.96					$ 58.48	$ 35.04
Aug-42						$ 53.29	$ 31.62					$ 52.67	$ 31.23					$ 53.57	$ 31.87					$ 53.31	$ 31.95
Sep-42						$ 48.45	$ 28.75					$ 47.89	$ 28.40					$ 48.71	$ 28.98					$ 48.48	$ 29.05
Oct-42						$ 45.72	$ 35.41					$ 44.00	$ 34.66					$ 44.14	$ 34.71					$ 45.59	$ 35.08
Nov-42						$ 45.72	$ 35.41					$ 44.00	$ 34.66					$ 44.14	$ 34.71					$ 45.59	$ 35.08
Dec-42						$ 50.75	$ 39.31					$ 48.84	$ 38.47					$ 48.99	$ 38.52					$ 50.60	$ 38.94
Jan-43						$ 77.29	$ 59.86					$ 74.38	$ 58.59					$ 74.61	$ 58.67					$ 77.06	$ 59.30
Feb-43						$ 72.69	$ 56.30					$ 69.96	$ 55.10					$ 70.17	$ 55.18					$ 72.47	$ 55.77
Mar-43						$ 58.42	$ 45.25					$ 56.22	$ 44.28					$ 56.39	$ 44.35					$ 58.24	$ 44.82
Apr-43						$ 51.36	$ 39.78					$ 49.42	$ 38.93					$ 49.57	$ 38.98					$ 51.20	$ 39.40
May-43						$ 51.19	$ 39.65					$ 49.26	$ 38.80					$ 49.41	$ 38.86					$ 51.04	$ 39.28
Jun-43						$ 50.21	$ 29.79					$ 49.63	$ 29.43					$ 50.47	$ 30.03					$ 50.23	$ 30.10
Jul-43						$ 60.20	$ 35.72					$ 59.50	$ 35.29					$ 60.52	$ 36.01					$ 60.23	$ 36.09
Aug-43						$ 54.88	$ 32.56					$ 54.25	$ 32.17					$ 55.17	$ 32.83					$ 54.91	$ 32.90
Sep-43						$ 49.90	$ 29.60					$ 49.32	$ 29.25					$ 50.16	$ 29.85					$ 49.92	$ 29.91
Oct-43						$ 47.09	$ 36.47					$ 45.32	$ 35.70					$ 45.45	$ 35.74					$ 46.95	$ 36.13
Nov-43						$ 47.09	$ 36.47					$ 45.32	$ 35.70					$ 45.45	$ 35.74					$ 46.95	$ 36.13
Dec-43						$ 52.26	$ 40.48					$ 50.30	$ 39.62					$ 50.45	$ 39.67					$ 52.11	$ 40.10
Jan-44						$ 79.39	$ 61.49					$ 76.40	$ 60.18					$ 76.63	$ 60.26					$ 79.15	$ 60.91
Feb-44						$ 74.66	$ 57.83					$ 71.86	$ 56.60					$ 72.07	$ 56.68					$ 74.44	$ 57.28
Feb-44						$ 60.00	$ 46.47					$ 57.75	$ 45.48					$ 57.92	$ 45.55					$ 59.82	$ 46.04
Mar-44						$ 52.75	$ 40.85					$ 50.76	$ 39.99					$ 50.92	$ 40.04					$ 52.59	$ 40.47
Apr-44						$ 52.58	$ 40.72					$ 50.60	$ 39.86					$ 50.75	$ 39.91					$ 52.42	$ 40.34
May-44						$ 51.57	$ 30.60					$ 50.97	$ 30.23					$ 51.84	$ 30.85					$ 51.59	$ 30.92
Jun-44						$ 61.83	$ 36.69					$ 61.12	$ 36.24					$ 62.16	$ 36.98					$ 61.86	$ 37.07
Jul-44						$ 56.37	$ 33.44					$ 55.72	$ 33.04					$ 56.67	$ 33.72					$ 56.40	$ 33.79
Aug-44						$ 51.25	$ 30.41					$ 50.66	$ 30.04					$ 51.52	$ 30.66					$ 51.28	$ 30.73
Sep-44						$ 48.37	$ 37.46					$ 46.55	$ 36.66					$ 46.69	$ 36.71					$ 48.22	$ 37.11
Oct-44						$ 48.37	$ 37.46					$ 46.55	$ 36.66					$ 46.69	$ 36.71					$ 48.22	$ 37.11
Nov-44						$ 53.68	$ 41.58					$ 51.66	$ 40.69					$ 51.82	$ 40.75					$ 53.52	$ 41.19
Dec-44						$ 81.54	$ 63.15					$ 78.47	$ 61.81					$ 78.71	$ 61.90					$ 81.29	$ 62.56

Energy Year (Year ending May)	Class I REC Cost	Capacity Price ($/MW-day)			
		PSE&G	JCP&L	ACE	RECO
2017	$ 13.00	$ 224.70	$ 163.27	$ 163.27	$ 163.27
2018	$ 13.26	$ 208.59	$ 153.74	$ 153.74	$ 153.74
2019	$ 13.53	$ 218.98	$ 218.98	$ 218.98	$ 218.98
2020	$ 13.80	$ 115.93	$ 115.68	$ 115.68	$ 115.68
2021	$ 14.07	$ 174.85	$ 174.85	$ 174.85	$ 174.85
2022	$ 14.35	$ 190.00	$ 165.00	$ 165.00	$ 165.00
2023	$ 14.64	$ 193.80	$ 168.30	$ 168.30	$ 168.30
2024	$ 14.93	$ 197.68	$ 171.67	$ 171.67	$ 171.67
2025	$ 15.23	$ 201.63	$ 175.10	$ 175.10	$ 175.10
2026	$ 15.54	$ 205.66	$ 178.60	$ 178.60	$ 178.60
2027	$ 15.85	$ 209.78	$ 182.17	$ 182.17	$ 182.17
2028	$ 16.16	$ 213.97	$ 185.82	$ 185.82	$ 185.82
2029	$ 16.49	$ 218.25	$ 189.53	$ 189.53	$ 189.53
2030	$ 16.82	$ 222.62	$ 193.32	$ 193.32	$ 193.32
2031	$ 17.15	$ 227.07	$ 197.19	$ 197.19	$ 197.19
2032	$ 17.50	$ 231.61	$ 201.13	$ 201.13	$ 201.13
2033	$ 17.85	$ 236.24	$ 205.16	$ 205.16	$ 205.16
2034	$ 18.20	$ 240.97	$ 209.26	$ 209.26	$ 209.26
2035	$ 18.57	$ 245.79	$ 213.45	$ 213.45	$ 213.45
2036	$ 18.94	$ 250.70	$ 217.71	$ 217.71	$ 217.71
2037	$ 19.32	$ 255.71	$ 222.07	$ 222.07	$ 222.07
2038	$ 19.70	$ 260.83	$ 226.51	$ 226.51	$ 226.51
2039	$ 20.10	$ 266.05	$ 231.04	$ 231.04	$ 231.04
2040	$ 20.50	$ 271.37	$ 235.66	$ 235.66	$ 235.66
2041	$ 20.91	$ 276.79	$ 240.37	$ 240.37	$ 240.37
2042	$ 21.33	$ 282.33	$ 245.18	$ 245.18	$ 245.18
2043	$ 21.75	$ 287.98	$ 250.08	$ 250.08	$ 250.08
2044	$ 22.19	$ 293.74	$ 255.09	$ 255.09	$ 255.09
2045	$ 22.63	$ 299.61	$ 260.19	$ 260.19	$ 260.19
2046	$ 23.09	$ 305.60	$ 265.39	$ 265.39	$ 265.39
2047	$ 23.55	$ 311.72	$ 270.70	$ 270.70	$ 270.70
2048	$ 24.02	$ 317.95	$ 276.11	$ 276.11	$ 276.11
2049	$ 24.50	$ 324.31	$ 281.64	$ 281.64	$ 281.64
2050	$ 24.99	$ 330.79	$ 287.27	$ 287.27	$ 287.27