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GARDEN STATE OFFSHORE ENERGY STRAW PROPOSAL FOR NEW JERSEY OFFSHORE WIND RPS CARVE-OUT

Garden State Offshore Energy (GSOE), a joint venture of PSEG Global and Deepwater Wind, submits the following straw proposal for structuring an offshore wind set-aside within New Jersey's renewable portfolio standard (RPS). GSOE believes the policy outlined in this document will help New Jersey meet its short-term goal of 1,000 MW by 2012, and put the State on a path to meet its long-term goal of 3,000 MW by 2020.

This proposal is submitted as a working draft. GSOE welcomes comments from other interested parties, and anticipates that this draft will be subject to revision based upon further consultation with stakeholders, lenders and other participants.

Background

The State has indicated that it is considering creating a specific minimum percentage requirement (or "set-aside") for offshore wind within its RPS. GSOE believes that a set-aside is an appropriate response to the unique challenges of developing offshore wind.

Offshore wind farms require a large upfront investment and involve considerable commercial and regulatory risk. Consequently, financing this type of project is challenging. Considering the uncertainty in revenues from Class 1 RECs, the volatility in energy markets and the recent difficulties in the credit markets, GSOE believes that offshore wind development will not occur if the projects cannot demonstrate a predictable source of revenue. If the State can help minimize these inherent risks by creating a timely and predictable revenue stream in the form of renewable energy certificates from offshore wind ("ORECs"), it will facilitate the construction of enough offshore wind generation to meet the State's Energy Master Plan goals.

An OREC program would have four main components that are modeled after the existing program for solar renewable energy certificates ("SRECs"):

- The program would mandate that all entities that supply BGS service to EDCs and third party suppliers of retail load (together "Suppliers") obtain a certain percentage of their load from offshore wind;
- The percentage of load required from offshore wind would increase over time;
- The Suppliers will demonstrate compliance with this requirement by purchasing ORECs for load served from June 1st through May 31st of each reporting year; and
- The ORECs would be administered through the PJM Generator Attributes Tracking System ("GATS").

However, offshore wind has unique characteristics separate and distinct from the solar program that will make it particularly difficult to create a liquid and transparent OREC market:

- Unlike the solar market, the significant upfront development and construction costs will limit competition and, as a result, there are likely to be only a few projects generating ORECs.

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- Progress toward achieving the offshore wind RPS target will occur as large offshore wind projects come online. Therefore, an “over-build” of just one project could severely depress OREC prices as the ORECs generated would far exceed demand.
- Conversely, an under-build of one project could result in customers paying a substantial sum in alternative compliance payments without receiving the benefits of developing the target amount of offshore wind.

Because of the unique challenges to developing offshore wind, and the unique features of an OREC market, the State will need to take an active role in setting fixed, long-term OREC prices, without which projects will be unable to secure financing. However, by using a competitive bidding process, GSOE believes the State can still establish OREC prices in a market-driven manner that minimizes risks to ratepayers.

GSOE’s Proposed Structure for an Offshore Wind Set-aside

Under GSOE’s proposal, for each energy year¹ between 2013 and 2020, the State would set targets for the total MWs of offshore wind capacity it wants to bring online and the annual MWhs and ORECs the State expects to be generated from those projects. The State would then solicit bids from developers to meet those capacity and OREC production targets. Developer bids would specify the capacity of the project, the expected ORECs to be produced, and the price per OREC necessary to make the project commercially viable.

The State would consider all of the bids based on agreed-upon criteria and then establish a single fixed 15-year price for the ORECs from all projects for that “Vintage Year.” The State would then issue a board order mandating that Suppliers purchase ORECs from each project at that fixed price, up to the number of ORECs specified in each developer’s bid. The price of ORECs could vary between Vintage Years based upon the results of different competitive solicitations, which would reflect changing market dynamics from year to year. In order to ensure bonafide bids and project completion, an appropriate level of bid participation and OREC delivery obligation will need to be established, similar to the approach used in BGS.

Example of the GSOE Proposal

The following is an example of how GSOE’s proposal would work. Assume that for energy year 2013 the State determines that it wants 1,000 MW of offshore wind capacity. If the State assumed a capacity factor of 34% (this figure is taken from BPU staff’s handout at the last stakeholder meeting), the State would calculate annual OREC production as follows:

- $\text{OREC Set-aside} = \text{Installed Capacity} \times \text{Hours} \times \text{Capacity Factor}$
- $\text{OREC Set-aside for Vintage Year 2013 Projects} = 1,000 \text{ MW} \times 8,760 \text{ hours} \times 0.34 = 2,978,400 \text{ MWh} / \text{ORECs}$

¹ An energy year runs from June 1 through May 31st as defined by the BGS Auction. To the extent that the State wishes to set targets based on a calendar year rather than an energy year, the State should be the buyer of last resort, as discussed in the section “Addressing Potential Shortfalls in Demand for ORECs,” for ORECs generated between the first day of the calendar year and the first day of the energy year that a project begins receiving OREC payments from Suppliers.

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For Suppliers, this requirement would be imposed as a percentage of total projected statewide load:

- Vintage Year 2013 % RPS Offshore Wind Requirement for Energy Year 2013= 2,978,400 MWh / 80,000,000² MWh = 3.723%

The State would solicit bids from developers to fill this Vintage Year 2013 OREC requirement. *The State would need to require that each developer use the State's capacity factor in submitting their bids in order to encourage uniformity among the bids.* Assume that the State received the following bids:

- Developer #1 – 350 MW project, expected to produce 1,042,440 ORECs each year (using the State's presumed capacity factor), at a price of \$70 per OREC
- Developer #2 – 350 MW project, 1,042,440 ORECs, \$80 per OREC
- Developer #3 – 300 MW project, 893,520 ORECs, \$90 per OREC

The projects accepted would be deemed the "Vintage Year 2013 projects." If, based on agreed-upon criteria, the State accepted all three bids, it would establish a \$90 clearing price for all ORECs generated by Vintage Year 2013 projects for a 15-year period, requiring that Suppliers purchase 2,978,400 ORECs per year from Vintage Year 2013 projects.

Addressing Fluctuations in the Year-to-Year Production of ORECs

Several variables will impact the number of ORECs that are generated each year, including wind patterns and construction and maintenance schedules. As a result, the number of ORECs generated each year will not match the ORECs required by the State. However, Suppliers will have already factored into their BGS bids the cost of paying for the required number of ORECs at the clearing price. The State will need a mechanism to deal with these discrepancies.

GSOE proposes that each developer only get paid for the ORECs they generate each energy year, up to the total number of annual ORECs specified in the developer's original bid to the State. If the total ORECs generated by all projects in a given Vintage Year fall short of the State's requirement, the Suppliers will make alternative compliance payments (OACP) into a State OACP fund. The total annual OACP payments will equal the shortfall in Vintage Year ORECs for the energy year multiplied by the Vintage Year OREC price.

If, during a given energy year, an individual project generates more energy than was specified in the developer's bid to the State, the additional energy will generate a Class 1 REC and not an OREC; unless, however, that particular project has a net deficit of ORECs produced during previous years, in which case the developer can be paid full OREC value for the additional energy generated, up to the amount of the existing deficit from previous years; or unless the developer has chosen to bank ORECs produced during prior years rather than selling them as Class 1 RECs. True-up payments to the developer can be made using money from the OACP fund.

² This number is used for the purpose of illustration only.

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The following example illustrates how this process would work. Assume that for Vintage Year 2014 the State accepted bids for two projects, each expected to produce 1,000,000 ORECs annually at a clearing price of \$80/OREC. The following chart outlines the first two years that both projects are in operation.

	2014		2015	
	ORECs generated	OREC Payments to Developer	ORECs generated	OREC Payments to Developer
Project 1	1,000,000	\$80 million	1,100,000	\$80 million (developer would also generate 100,000 Class 1 RECs)
Project 2	900,000	\$72 million (\$8 million paid to OACP fund)	1,100,000	\$88 million (\$8 million paid from OACP fund)

The chart above shows that during any given energy year a project is only awarded ORECs up to the amount in its bid, unless OACP funds are transferred to the developer to compensate for a previous shortfall.

This system ensures that ratepayers are protected from over-subsidizing offshore wind projects. At the same time, it gives offshore wind developers a predictable revenue stream and a mechanism to be fully compensated despite year-to-year fluctuations in energy production. It also assists in providing Suppliers with a predictable OREC obligation that they can build into their BGS bids. Finally, it locks in long-term OREC prices without requiring utilities to enter into long-term contracts. As has been noted in other proceedings before the Board, such contracts are viewed as debt by credit rating agencies and have a negative impact on a utility's balance sheet.

Addressing Potential Shortfalls in Demand for ORECs

Because the RPS requirement is imposed as a percentage of load served, the total demand for ORECs each year will be a function of the total electric load in New Jersey. The total electric load will fluctuate from year to year based on weather, energy efficiency investments and other factors. This could cause a situation where demand for ORECs falls below the number of ORECs established in the solicitation process, which the State guaranteed developers they could sell.

In other words, if the weather is mild during a given year and statewide electricity demand is lower than expected, a developer could generate ORECs and have no Suppliers to which to sell those ORECs. This would undermine the State's goal of creating predictable OREC revenues for offshore wind developers.

To address this issue, the State should guarantee that it will be the buyer of last resort for unsold ORECs. For example, if a developer submitted a winning bid to the State that required 1,000,000 ORECs per year, and because of a low electricity demand for a given year that

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developer could only sell 950,000 of the 1,000,000 ORECs it generated to Suppliers, then the State would purchase 50,000 ORECs at the clearing price, using money from the OACP fund.

In order to deal with situations such as this, the State will need to ensure that the OACP fund has sufficient money to true up year-to-year fluctuations in OREC demand and OREC supply. Therefore, during the initial years of the offshore wind set-aside, the State may have to use a mechanism that is similar in operation to the Societal Benefit Charge in the establishment of the funding source to address these issues. Over the longer term, OACP payments will likely be sufficient to fully fund the OACP fund.

Additional Policy Details

- **Financing** – In order to successfully secure financing for offshore wind, it will be of critical importance for the BPU to effectively deal with the issue of regulatory risk. Specifically, banks will most likely be unwilling to accept the regulatory risk associated with a change in either the OREC price or the nature of a Supplier's OREC RPS obligation. In the past, the BPU has dealt with this issue by explicitly recognizing in its written orders that project developers and lenders are relying on the pricing and regulations in constructing and financing projects, and that once set by the BPU, it would be inappropriate for the BPU or the legislature to change either the pricing or the regulations in any way which would adversely impact the ability to obtain financing.
- **Projects that fail to come online** – If, for a given Vintage Year, one or more winning projects fail to come online as scheduled, the State would reduce the OREC requirement for that Vintage Year, presuming the State knew of the project's delay/cancellation with enough lead time to precede any BGS auctions that factored in the original OREC requirements for that Vintage Year. If the State did not have enough lead time, and Suppliers had already bid in the higher OREC requirement, the State should maintain its OREC requirement for that year and Suppliers would pay the OACP for the unmet OREC requirement.
- **Allocating excess OACP funds** – If the OACP fund runs a surplus (e.g., if substantial OACP payments were made for a project that failed to come online), then the State should use OACP funds to ensure there are sufficient reserves to address year-to-year fluctuations in OREC supply and demand. Should the OACP funds exceed levels sufficient to ensure reserves (based upon independent analysis subject to review and comment by interested parties), excess reserves should be refunded to ratepayers in accordance with a just and reasonable refunding mechanism approved by the Board after opportunity for further review and comment by interested parties.
- **Delivery Into New Jersey's Distribution System** –BPU staff has suggested that participation in the OREC set-aside program be limited to those offshore wind projects that are constructed off of the coast of New Jersey and deliver energy into New Jersey's transmission and distribution system. GSOE fully concurs with the intent of staff's recommendation: since the ORECs will be funded by New Jersey electric ratepayers, New Jersey's consumers ought to be the beneficiaries of these projects. An electrical interconnection requirement, however, may be difficult to administer and could pose certain legal issues as well. As an alternative, GSOE would suggest that consideration be given to the establishment of a criterion for participation in the OREC program that the offshore wind project provide demonstrable economic benefits to New Jersey, e.g. through employment, taxes, etc.

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- **Timing of BGS auction and initial OREC pricing** – New Jersey’s stated goal is to have 1,000 MW of offshore wind in operation for energy year 2013. However, it is unlikely that the bidding process which sets the OREC price will take place before the first BGS auction for energy year 2013. This is because offshore wind developers will not have enough meteorological data to make an informed bid until early 2011. In the absence of a final OREC price for Vintage Year 2013 projects, the BPU will need to administratively establish a placeholder OREC value that Suppliers can bid into the BGS auction, until the real OREC price is determined.

Developing a Schedule to Reach the State’s Short and Long-Term Offshore Wind Goals

In order to reach the 1,000 MW target, the State should restrict bids for Vintage Year 2013 to the developers whose projects have already been evaluated and approved through the RFP process. These approved developers are already working with the State, have won grants for the deployment of meteorological monitoring towers (“MET towers”), and can make bids for Vintage Year 2013 based on actual wind data from those MET towers. If one or more of the approved developers declines to bid, or has their bid rejected by the State, then that meteorological data could be made available to other potential bidders.

For Vintage Years 2014 through 2020, the State could issue additional RFPs or allow open bidding among qualified competitors, depending on market conditions. In the near term, GSOE believes additional RFPs are the most effective method to allow the State to define its parameters while still ensuring competitive pricing. An RFP process also allows the BPU to use its experience and knowledge to exclude non-viable projects and to evaluate the entire spectrum of benefits offered by each developer, including economic development and job creation. Regardless of whether the State uses an RFP process or open bidding, the State should screen bids to ensure that developers have a viable chance of completing the project to protect against frivolous bids that undermine the State’s efforts.

GSOE agrees with the BPU staff straw schedule that sets a new 250 MW target for offshore wind projects for Vintage Years 2014 through 2020. GSOE anticipates that approximately 40 to 50 offshore wind turbine generators can be installed in a given year³. At this rate, the annual installed capacity targets of approximately 250 MW per year can be achieved.

Conclusion

An effective offshore wind policy must balance many considerations. In order to ensure that the State meets its offshore wind goals, it must reduce the risks associated with developing an offshore wind farm and provide developers with a predictable and bankable revenue stream in the form of ORECs. At the same time, it should employ market-mechanisms to minimize the costs to ratepayers. In addition, it should not employ a mechanism that negatively impacts the balance sheets and financial health of the state’s utilities.

³ See Page 9 of Section 3.8 of GSOE’s proposal to the NJ BPU: “Because of rough seas during the winter months, heavy installation offshore can only be performed from May through October... Garden State anticipates that turbines can be assembled at a rate of two per week. Given the constraints of deploying only during the months of May through October, turbines will be deployed as soon as they are assembled...”

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GSOE believes this straw proposal is the most practical and effective way to achieve all of these goals. If you have any further questions about this proposal, please do not hesitate to contact Nelson Garcez, Jess Melanson, Stephen Byrd or another representative from PSEG or Deepwater.