



October 7, 2022

Ms. Carmen D. Diaz
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Docket No. QO22080481

Dear Ms. Diaz,

Leading Light Wind appreciates the opportunity to submit comments to the New Jersey Board of Public Utilities (BPU) ahead of the release of the state's third offshore wind solicitation.³

Leading Light Wind is an offshore wind project in the New York Bight, located in BOEM lease OCS-A 0542. The project sponsors are Invenergy and energyRe, with financial backing several key project partners including Blackstone, CDPQ, PSP/FirstLight and Ullico.

Invenergy's name is synonymous with innovation in an industry undergoing transformation. As the world's largest privately held developer and operator of renewable power, Invenergy works with leading utilities, global brands and public sector partners to take energy infrastructure projects from drawing board to reality. Invenergy has successfully developed over 30 gigawatts of power projects across the Americas, Europe and Asia to enable a more sustainable, flexible, and resilient grid.

For more information regarding Leading Light Wind and Invenergy please visit <https://leadinglightwind.invenergy.com/> and <https://invenergy.com/>.

Sincerely,

Aaron Geschiere
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Invenergy

Kaley Bangston
Director, Regulatory Affairs
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Project Design

Question 1: What are the benefits and challenges of the Board requiring submittal of minimum and/or maximum project capacity bid sizes?

The benefit of the BPU requiring minimum and/or maximum project capacity sizes is that the BPU is likely to receive fewer bids and may receive bids that are more aligned with what the BPU would like to be submitted in the third solicitation.

The challenge of the BPU requiring minimum and/or maximum project capacity sizes is that the BPU may discourage bidders from submitting what might otherwise be cost-effective and competitive bids, thus shrinking the competitive landscape for the solicitation.

Question 2: Board Staff is considering project design nameplate submissions approximately equal to 1,200 MW, while preserving the need for flexibility in its evaluation of project nameplates that significantly diverge from the target nameplate of 1,200 MW. Is there an optimal project capacity size such that multiples of this installed capacity foster efficient OREC pricing, and if so, how is that optimal project capacity size determined?

As noted in our response to Question 4, there are a number of factors that may affect proposed project sizes submitted by developers. These include turbine technology, lease area sizing and characteristics, economies of scale, capacity that has been committed for offtake through previous solicitation(s), transmission technology (HVDC vs HVAC), and interconnection considerations (headroom and grid upgrades at the Point of Interconnection).

Given these wide-ranging factors, Leading Light Wind does not believe that there can be any one single, optimal project capacity size. Rather than being overly prescriptive, Leading Light Wind believes that the BPU should provide bidders with the flexibility to determine which project sizes from a given lease area are likely to be the most cost-effective and offer the greatest benefits to the state of New Jersey and its ratepayers. This will allow bidders to make key commercial decisions in-house, while providing the BPU with a greater range of options (and likely more economically efficient options) from which to choose for their award cohort.

Question 4: What technical, economic, or environmental considerations affect proposed project sizes?

There are a number of factors that may affect proposed project sizes submitted by developers. These include turbine technology, lease area sizing and characteristics, economies of scale, capacity that has been committed for offtake through previous solicitation(s), transmission technology (HVDC vs HVAC), and interconnection considerations (headroom and grid upgrades at the Point of Interconnection).

Question 6: What are the benefits and challenges of the Board allowing the inclusion of energy storage in applicants' projects?

The benefits of the BPU allowing the inclusion of energy storage are the potential for 1) greater cost savings to New Jersey ratepayers, 2) reduced carbon emissions, 3) increased renewable energy deliveries (reduced renewable curtailment), and 4) increased capacity and grid reliability.

Question 7: If energy storage is included in a proposal, should there be specific parameters in the SGD around how it should or must be interconnected, deployed, and operated to optimize grid reliability and economic benefits to New Jersey ratepayers?

While specifying parameters on how storage should or must be interconnected, deployed, and operated may be well-intentioned, prescribing these may discourage bidders from submitting what might otherwise be cost-effective and competitive energy storage solutions, thus shrinking the competitive landscape for the energy storage projects that are considered and bid. Specific operational limitations can lead to uneconomic dispatch, such as prescribing storage to charge/discharge during specific hours, regardless of grid need. Wholesale markets already provide price signals to incentivize providing ancillary services and dispatch when they are most beneficial for the grid, with project owners expected to charge during periods of high supply/low demand and discharge during periods of low supply/high demand. In addition, project developers can make informed decisions around the value of avoided curtailment when deciding whether or not a paired project would be the most economical option.

Economic Impacts and Strength of Guarantees for Economic Impacts

Question 8: Board Staff is considering requiring deposits that are refundable if firm economic benefits guarantees are met – or a damages term if economic benefits are not met – that would be applicable to all applicants.

- a. What are the benefits or challenges of implementing such a requirement?
- b. How would such a requirement affect the level of proposed economic benefits and guaranteed economic benefits applicants submit?
- c. Under such a framework, what deposit forfeitures or damages should be imposed if there are shortfalls relative to the firm economic benefits guarantees?
- d. Under such a framework, what is the difference between a deposit forfeiture or damages term that will facilitate meeting the firm economic benefits guarantees and those that are punitive?
- e. Under the deposit forfeiture framework, how should at-risk deposit amounts be guaranteed? Should the Board require a letter of credit from a creditworthy third party, or should parental guarantees be accepted?

Refundable deposits or damages for unmet firm economic benefits have the potential to increase OREC prices. For projects that leverage project finance and/or projects that have higher costs-of-capital, refundable deposits, in particular, could be particularly disadvantageous, as providing the capital for the deposit would come at a higher cost. If the BPU does impose such a requirement, Leading Light Wind would prefer for this requirement to take the form of damages.

In addition, Leading Light Wind believes that the focus should be on ensuring that total investment thresholds in the state of New Jersey are met, which will allow developers with the ability to continue to be responsive to changes in the project envelope and changes in market conditions while still meeting aggregate investment commitments to the state.

Question 10: Is there specific guidance to applicants that should be incorporated in the SGD to support the identification of benefits and impacts to Environmental Justice and Overburdened Communities, as identified in the 2019 New Jersey's Energy Master Plan and New Jersey's Environmental Justice Law, N.J.S.A. 13:1D-157?

Leading Light Wind would welcome an increased focus on Environmental Justice and Overburdened Communities in New Jersey's future offshore wind solicitations. However, Leading Light Wind is concerned that N.J.A.C. 14:8-6 does not provide sufficient guidance to direct an increased focus on these issues within New Jersey's offshore wind solicitations.

In general, if the BPU intends to increase its focus on the benefits and impacts to Environmental Justice and Overburdened Communities, the BPU should offer as clear of guidance as possible around:

- The types and amounts (likely in percentage terms) of benefits that New Jersey would prefer that developers should aim to provide to these communities, including any minimum amount; and
- How evaluation of the benefits and impacts to these Communities will contribute to or influence scoring for the solicitation.

Performance Guarantees

Question 16: What mechanism could be included in a Board Order to ensure that the proposed nameplate capacity of the Project is constructed as set forth in the Order?

Due to evolutions in technology over time, including commercially available turbine capacities, there will always be some potential for constructed nameplate capacity may differ from the proposed capacity. As a result, if the Board considers the implementation of any mechanism, the Board should also provide a Project with an opportunity to construct a project capacity within a narrow range (potentially +/-5%) as an acceptable deviation from the originally approved project capacity.

Inflation/Deflation Adjustment

Question 22: What are the benefits and challenges of including an inflation adjustment mechanism in the Third Solicitation to account for changes in commodity pricing and labor costs?

The primary benefit of including an inflation adjustment mechanism in New Jersey's third solicitation is that an inflation adjustment mechanism is very likely to reduce OREC pricing risk for offshore wind developers. As a result of this reduced pricing risk, developers are likely to be able to reduce the risk premiums built into their OREC pricing, which may lower the costs borne by New Jersey ratepayers. In addition, the reduced pricing risk will increase the likelihood that projects that receive approval to sell ORECs achieve commercial operation (and achieve commercial operation in a timely fashion), which will have numerous benefits in the state of New Jersey including positive economic impacts and lower power plant emissions, including greenhouse gas emissions.

The primary challenge to including an inflation adjustment mechanism lies in the design of that mechanism. There is no single index or formula that can fully capture the price inflation that all potential bidders are likely to experience, which means that OREC pricing risk can never fully be mitigated. However, by making well-informed design choices for both the formula used for the inflation adjustment and the timing for when the inflation adjustment would go into effect, the NJ BPU can mitigate these challenges and maximize the benefits of including an inflation adjustment mechanism in the solicitation.

Question 23: Describe how an inflation adjustment mechanism could affect OREC pricing.

As discussed in our response to Question 22, by increasing the certainty that the OREC price will be sufficient to cover the project's capital expenditures, a properly designed inflation adjustment mechanism would allow developers to reduce the risk premiums built into their OREC pricing. This may happen by either by allowing developers to lower/more accurately represent the expected cost of key project components or by allowing developers to lower their expected cost of capital. As a result, developers will be able to reduce the base level OREC pricing that they bid into New Jersey's third solicitation.

Question 24: If an inflation adjustment is included, what are the elements of residual inflation risk?

As discussed in our response to Question 22, there is no single index or formula that can fully capture the price inflation that all potential bidders are likely to experience. As a result, the elements of residual inflation risk are somewhat dependent upon the design of the inflation adjustment mechanism, but may include:

- 1) Differences between what the inflation adjustment mechanism calculates the project's inflation to be (and how this translates to the adjustment to the OREC price) and the actual inflation experienced by the project.
- 2) If the inflation adjustment uses indices that are locked in at a certain date (either a project-specific date or a general date), there may be residual inflation risk incurred between the lock-in date and the date that the project reaches financial close.
- 3) Inflation adjustment mechanisms generally focus on the pre-construction, capital-intensive period of project development. However, the project will still experience some inflation risk in the operating period.

Question 26: If an applicant offers both a fixed OREC price and an adjustable OREC price, and if the applicant's project is selected, what is the latest date that the pricing option could be chosen and why?

Leading Light Wind would prefer that a decision between a Fixed OREC price and an Adjustable OREC price is made in the Order approving project selections.

Question 27: Describe how an inflation adjustment mechanism could affect the project development timeline and/or viability of an offshore wind project.

In an especially inflationary environment, a given OREC bid and resulting approval to sell ORECs may become unviable, as the capital expenditures incurred by a developer would substantially exceed expectations and the project's expected return would fall below the developer's required return threshold. In these instances, the developer may either push back the project's development timeline in the hopes that market conditions improve and the OREC price becomes workable once again, or the developer may be forced to cancel the project altogether.

As discussed in our response to Question 22, by allowing developers to cover unexpectedly high capital expenditures vis-à-vis an increased OREC price, Leading Light Wind believes that an inflation adjustment mechanism has the potential to materially improve project viability and timeliness. This is because, when the developer moves to lock in capacity reservations and key project packages, the increased OREC price will be better aligned with the realities of the market than when the developer submitted their initial OREC bid to the NJ BPU.

Question 28: What are the benefits and challenges of (i) applying the inflation adjustment in lieu of an annual escalator on the OREC price or (ii) allowing bids with inflation adjustment to also include an escalator?

The BPU should not consider an inflation adjustment and an annual escalator to the OREC price to be perfect substitutes, as an inflation adjustment corresponds more to project cost uncertainty compared to an annual OREC price escalator.

The challenge of applying an inflation adjustment to an OREC price that also includes an escalator would be around what the inflation adjustment would correspond to. It would likely be easiest to apply the inflation adjustment to the Year 1 value, while leaving the escalator at the same value (e.g. 2.0%) as what the Project developer originally included.

Question 29: Should the inflation adjustment mechanism be based on a single defined index or multiple indices?

There are several inflationary factors that may impact an offshore wind project's capital expenditures, including steel, aluminum, copper, labor, fuel, and more. These wide-ranging factors are difficult to

capture in a single index, particularly one that is overly broad and reflective of the wider economy, such as the Consumer Price Index (CPI) and the Producer Price Index (PPI), rather than the inflation that offshore wind projects are likely to experience. As a result, if a single index is used, the potential to reduce ratepayer costs is likely to be significantly diminished, as the risk premium reductions factored in by developers in inflation adjusted bids will either be modest or even zero.

Accordingly, Leading Light Wind is strongly in favor of an inflation adjustment mechanism that relies on multiple indices instead of a single index. However, an overly complicated mechanism may be challenging for both developers and the public to understand and evaluate, so the BPU should aim to strike a balance between simplicity and crafting an inflation adjustment mechanism that is likely to reflect actual project inflation.

Question 30: What publicly available index or indices are most suitable to capture applicants' exposure to inflation during the project development period? Please explain the relevance of the index or indices you suggest. If the index is not publicly available, how would you suggest the Board meet its goal of transparency and openness?

Leading Light Wind shares the Board's goal of transparency and openness and believes that publicly available indices that reflect project inflation can be identified and incorporated.

Leading Light Wind is generally supportive of the Inflation Adjustment formula included by the New York State Energy Research and Development Authority (NYSERDA) in their 3rd offshore wind solicitation. The formula includes publicly available indices for 5 commodities/components that are all relevant to offshore wind capital expenditures. In order of importance, these are:

- **Steel:** NYSEDA used U.S. Bureau of Labor Statistics (BLS) Produced Price Index (PPI) Data Series PCU331110331110 in their formula. However, Leading Light Wind does have a preference for using European indices for metals, including those from the London Metal Exchange (LME), as they more closely align with the indices used by Original Equipment Manufacturers (OEMs).
- **Labor:** NYSEDA used U.S. BLS Employment Cost Trends Data Series CIU202000000000I, which reflects wages and salaries for all private workers, in their formula. A more specific labor cost index would also be appropriate.
- **Fabrication:** NYSEDA used U.S. BLS PPI Data Series PCU811310811310 in their formula.
- **Copper:** NYSEDA used the COMEX spot price in their formula. As previously noted, Leading Light Wind has a preference for using a European index, like LME for metals like copper.
- **Fuel:** NYSEDA used U.S. EIA Petroleum & Other Liquids Data for New York Harbor Ultra-Low Sulfur No. 2 spot prices.

Question 32: What are the benefits and challenges of applying the adjustment to all versus only a specific percentage of the OREC price?

Applying an inflation adjustment to a specific percentage of the OREC price seems likely add an unnecessary layer of uncertainty to the inflation adjustment mechanism, which is likely to reduce the benefits of offering the inflation adjustment. As discussed in our response to Question 29, Leading Light Wind's preference would be an inflation adjustment formula that is likely to closely align with the project-specific cost increases that are likely to be realized by the developer in the period between bid submission and the project reaching financial close, while still remaining relatively simple and easy to understand. This approach would be preferable to using a single index that is not as reflective of offshore wind project-specific inflationary pressures (CPI, PPI, etc.) that only applies to a specified percentage of the OREC price.

Question 33: What is an appropriate way to set the baseline value of the inflation index or indices at the time of bid submission, for example an annual average or discrete monthly value?

Setting the baseline using 3- to 12-month average will have the benefit of reducing some of the noise that can appear within the data on a month-to-month basis. What is more critical, regardless of the BPU's approach, is that the baseline value (or values) for the index (or indices) is fully known by bidders at the time of bid submission. This will help to maximize the benefit of including an inflation price adjustment, which will in turn maximize the potential benefits to New Jersey ratepayers.

Environmental and Fisheries Mitigation Plan

Question 39: Please discuss opportunities for sharing environmental data collected prior to and during preconstruction surveys and baseline monitoring regarding the spatial and temporal presence of marine mammals, fish, aquatic invertebrates, sea turtles and avian species and bats, as well as benthic habitats, with the environmental community, including, but not limited to, the New Jersey Department of Environmental Protection ("NJDEP") and other state agencies and regional entities.

Leading Light Wind supports the sharing of non-proprietary information (see Question 41). In terms of opportunities for sharing environmental data, we respectfully point you to New York State Energy Research and Development Authority's report titled "Wildlife Data Standardization and Sharing: Environmental Data Transparency for New York State Offshore Wind Energy" (May 2021), which is intended to facilitate transparency and sharing of non-proprietary environmental data for offshore wind energy development. This includes an assessment of 15 databases that are recommended as primary or secondary repositories for different types of raw data generated by offshore wind developers and their contractors, data transparency objectives, and data gaps. The report can be applied widely to offshore wind energy development on the Atlantic seaboard.

Question 41: Please explain the types of environmental data obtained prior to and during pre-construction surveys, during construction and during operation that applicants would consider to be proprietary and explain why.

Proprietary information includes any information which in the person's or entity's opinion constitutes trade secrets, energy trade secrets or other energy information submitted pursuant to N.J.S.A. 52:27F-18, proprietary commercial or financial information, or information that if disclosed, would be likely to cause damage to either a competitive or bidding position or national security. In accordance, Leading Light Wind considers data sets on a case-by-case basis and assesses whether disclosure will create any commercial or competitive risk. While data sets that support the general understanding of wildlife populations and marine ecosystem dynamics would likely *not* be considered proprietary, that determination is still best made on case-by-case basis.

Question 45: NJDEP is interested in opportunities to collaborate with other Atlantic seaboard states to integrate data regarding the spatial and temporal presence of marine mammals, fish, aquatic invertebrates, sea turtles, avian species and bats, as well as benthic habitats. Discuss opportunities and potential barriers that may exist.

Leading Light Wind supports collaboration among states on the Atlantic seaboard to develop data that bolsters our understanding of marine resources where offshore wind development is anticipated and helps to guide the development of appropriate avoidance, minimization, and mitigation measures. Success will require development of an organizing body(s) that can direct data needs, collect information, manage input and processes, etc. Funding sources should also be identified. Consideration should also be given to the role that the Federal government, likely through the National Oceanic and Atmospheric Administration (NOAA), can play in such regional efforts.

Evaluation

Question 49: Are there any criteria relevant to the evaluation of the “Likelihood of Successful Commercial Operation,” as presented in Section 5 of the Evaluation Report for the Second Solicitation that should be added or any criteria that are not relevant and should be removed?

Leading Light Wind believes that the project experience criteria should be broadened to consider a wider range of applicable experience, including experience with transmission development and general experience with developing, permitting, and constructing complex infrastructure and energy projects, both offshore and onshore.