

**Ørsted's Comments to the New Jersey Board of Public Utilities
on its Resource Adequacy Investigation
Docket No. E020030203**

I. INTRODUCTION

Ørsted welcomes the opportunity to provide input on the New Jersey Board of Public Utilities' (BPU or the Board) Investigation of Resource Adequacy Alternatives (Docket No. E020030203). Ørsted develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, and bioenergy plants, and is the largest developer of offshore wind projects in the world. Ørsted has a unique position in this proceeding. Our Ocean Wind Project is the first offshore project selected by the Board and will contribute 1,100 megawatts (MW) to New Jersey's goal of developing 7.5 gigawatts of offshore wind. We believe this investment in New Jersey's evolving energy supply mix evidences Ørsted's conviction to continuing our vigorous efforts to support New Jersey's clean energy policy goals outlined in its Energy Master Plan (EMP).

Ørsted provides the following comments, which are intended to help refine and advance the Board's consideration of the alternatives identified in the Board's Request for Written Comments of March 27, 2020, to achieve resource adequacy and further New Jersey's clean energy goals. Ørsted continues to evaluate options as the regulatory environment at the federal level and at PJM evolves.

Ørsted's position is summarized as follows:

- Ørsted's Ocean Wind Project expects to be in service in 2024. Ørsted intends to take all steps to maximize market revenues for the Project to the benefit of ratepayers and to support the Board in its pursuit of the most effective approach to achieving its clean energy goals.
- Initial analysis suggests that the Federal Energy Regulatory Commission's (FERC) Minimum Offer Price Rule (MOPR) Order will impact the offshore wind industry because current floor price estimates indicate that offshore wind projects will not clear future

capacity auctions administered by PJM Interconnection L.L.C. (PJM). Therefore, under MOPR, offshore wind assets may not be able to contribute to the state's capacity needs. This result would fail to recognize the reliability value of offshore wind generation, a resource that has demonstrated its reliability value in projects around the world.

- The PJM Fixed Resource Requirement (FRR) Construct could provide a resource adequacy model that recognizes the reliability value of clean energy generation, including offshore wind projects, and should be subject to continued review and refinement to fit the New Jersey market.
- The Board should continue to evaluate the potential impacts of other clean energy market mechanisms, primarily supporting the review and introduction of carbon pricing into the PJM energy price and dispatch algorithm.
- The Board should continue to support the development and implementation of clean energy projects, including advancing the Governor's Offshore Wind Goal of 7,500 MW to realize the substantial energy, environmental, economic development, and job-creation benefits of such projects.

II. OVERVIEW OF NEW JERSEY CLEAN ENERGY GOALS

New Jersey's clean energy goals, as outlined in the Energy Master Plan: Pathway to 2050¹ will require continued collaboration, innovation, and incentives to develop clean energy projects within wholesale and retail energy markets, while providing benefits to New Jersey consumers. The EMP outlines the state's plan to achieve 100% clean energy by 2050, 100% carbon-neutral electricity generation, and maximum electricity electrification for the transportation and building sectors.

Building upon the Clean Energy Act of 2018, the EMP commits New Jersey to:

¹ See 2019 New Jersey Energy Plan: Pathway to 2050 (EMP) (January 27, 2020). Available at: https://nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf

- Achieving a Renewable Portfolio Standard (RPS) of 50% by 2030
- Generating 7,500 MW of offshore wind by 2030
- Installing 2,000 MW of energy storage by 2030
- Increasing energy efficiency standards by at least 2% in the electric sector and at least 0.75% in the natural gas sector
- Transitioning to a new solar incentive program
- Developing a community solar program

These goals make New Jersey a national and world leader in addressing climate change and building an economy through clean energy investments. Accelerating progress towards a carbon-free electric sector will require state policies to work in tandem with wholesale market mechanisms that can provide revenues for clean energy generators that serve New Jersey customers. Clean energy resources supported by the state can and will be a source of reliable generation, and the capacity model employed by New Jersey should recognize that value.

III. FERC'S DECEMBER 2019 MOPR ORDER AND ITS IMPACT ON CLEAN ENERGY SOURCES

In its June 2018 Order², FERC found that PJM's capacity market construct was unjust and unreasonable because it failed to adequately protect prices from being distorted by incentive programs intended to advance state energy policies. FERC directed PJM to impose a price floor on capacity sell offers from any resource that could receive a state subsidy, which we believe would include Ocean Wind. In a reversal of their earlier directive to PJM, FERC rejected all state accommodation mechanisms that would exempt resources that contribute to a state's energy policy goal from MOPR. Under the FERC Order, a resource's ability to clear the Reliability Pricing Model (RPM) auction and receive capacity revenues depends on a resource's MOPR floor price, representing the lowest price that the unit can bid into a capacity auction.

Under the FERC Order, in its compliance filing currently under review by FERC, PJM proposes establishing MOPR prices for new resources based upon either default class average or unit-specific Net Cost of New Entry (Net CONE) values for different resource types.

² See Calpine Corporation et al. v. PJM Interconnection, LLC, FERC Docket No. EL18-178-000 et al.

In theory, Net CONE represents the level of capacity revenues needed to provide a return of and on the generator's annual fixed revenue requirement net of energy and ancillary market margins. Any portion of the total revenue requirement that remains after accounting for energy and ancillary revenues represents the lowest price that an "economically rational" market participant should be willing to offer into RPM.

PJM proposes that MOPR values for existing resources reflect Avoidable Cost Rates (ACR), which are any fixed operations and maintenance costs and incremental (i.e., going forward) investment costs (CAPEX) that the resource owner would avoid by retiring the unit. Because this formula excludes all or nearly all construction CAPEX from the floor price calculation, existing resource MOPR values are much lower than Net CONE values. Therefore, resources have a material incentive to clear the first capacity auction.

PJM has proposed to allow subsidized resources to request a unit-specific offer price floor instead of relying on the default values for their respective asset classes. While initial analysis suggests that this pathway appears workable for some renewable assets, today's MOPR calculation methodologies do not initially appear to provide relief for offshore wind, which is unlikely to clear in the capacity market based on technology cost projections.

However, these issues, particularly clarity on which resources may or may not clear a future capacity auction, are in a state of flux because FERC's review of PJM's Compliance Filing has not yet been issued and information from generators about what units may clear is not yet available. Accordingly, more information than is currently available about how MOPR will impact various renewable assets and New Jersey's energy policy goals is necessary to permit a full and adequate evaluation of any alternative resource adequacy construct.

IV. IMPACT OF THE MOPR ORDER ON NEW JERSEY

The FERC MOPR Order may unnecessarily and unreasonably prevent state-supported new clean energy resources from meeting the state's capacity needs. While many resources receiving state subsidies will be able to participate in PJM's capacity market, the MOPR Order may impact specific clean energy resources and prevent them from clearing the market and receiving capacity revenues. The continued development of new renewable technologies is critical for New Jersey to achieve its clean energy goals. New Jersey has committed to

fostering the deployment of offshore wind and other clean technologies despite the impact of the MOPR Order.

As compared to other renewable resource types, offshore wind has the potential to earn higher capacity revenues due to its capacity factor and peak coincident availability. Under the Board's regulations, any revenues that offshore wind resources earn for energy or capacity sales will be credited fully to ratepayers. New Jersey ratepayers may double-pay the cost of capacity when offshore wind assets do not clear in a capacity auction -- once for resources procured through RPM, and again for offshore wind capacity paid for through Offshore Renewable Energy Certificates (ORECs).

The impact on ratepayers from this potential loss should be recognized and put into the context of the Board's overall mandate to protect ratepayer interests and pursue its clean energy objectives. For example, for Ørsted's 1,100 MW Ocean Wind Project approved by the Board, if the Project does not clear the auction, the loss of capacity revenues is estimated to be more than \$40 million of value annually for an approximate rate impact of 0.1% on New Jersey's electric rates. Notwithstanding the potential impact of the MOPR Order, New Jersey ratepayers will continue to realize the billions of dollars of energy, environmental, economic development, and job-creation benefits of the Project.

Accordingly, the Board should consider alternative mechanisms that would harmonize New Jersey's clean energy policy agenda with a capacity model that will assuredly recognize the intrinsic value of renewable resources.

These possible alternatives are reviewed below and include FRR, Clean Energy Standards and Markets, and Carbon Pricing.

V. FIXED RESOURCE REQUIREMENT AS A RESOURCE ADEQUACY CONSTRUCT

FRR is a legacy mechanism that has existed since the creation of the RPM construct in 2007. At the time, the FRR served as a compromise to accommodate the remaining vertically integrated utilities. However, the FRR alternative is available to investor-owned and publicly owned utilities in states with or without retail choice, including New Jersey. According to PJM's Reliability Assurance Agreement,

“The Fixed Resource Requirement (“FRR”) Alternative provides an alternative means, under the terms and conditions of this Schedule, for an eligible Load-Serving Entity to satisfy its obligation hereunder to commit Unforced Capacity to ensure reliable service to loads in the PJM Region.”³

To be removed from the PJM capacity market, Load Serving Entities must submit an FRR plan in advance of the Base Residual Auction (BRA) for the applicable delivery year that exhibits the procurement of the equivalent capacity requirement that PJM would have procured on their behalf. New Jersey's competitive retail market means local utilities do not own generation. Therefore, FRR capacity would be obtained either bilaterally or through some alternative mechanism. Importantly, FRR need not be implemented on a state-wide basis, it can be implemented for an entire state or for regions or Electric Distribution Company service territories, allowing the Board to form the FRR to more closely meet its requirements.

Under PJM's FRR provisions, capacity could be procured from any location inside or outside the state. However, due to New Jersey's constrained transmission system, New Jersey would be reliant on local generation sources, including renewable, fossil fuel, and nuclear resources.

VI. THE BOARD SHOULD CAREFULLY INVESTIGATE FRR AS A RESOURCE ADEQUACY OPTION TO DETERMINE WHETHER IT CAN BE STRUCTURED TO SUPPORT RENEWABLE DEVELOPMENT IN NEW JERSEY

An FRR construct can be a consideration if it furthers, at a reasonable cost, both New Jersey's resource adequacy needs as well as the EMP's clean energy goals. Such a mechanism would need to incentivize the investment and development of new clean generation within the deliverability service area, while ensuring that those clean resources are also capacity resources so that New Jersey residents do not have to pay twice for capacity.

There are several approaches to procuring capacity. One approach is that the FRR construct could include a request for proposal (RFP) to solicit capacity from clean energy resources. This RFP can proscribe specific annual goals for selecting resources to nested volumes of capacity from specific resource categories that support the state's goals. The RFP

³ See Reliability Assurance Agreement <https://pjm.com/directory/merged-tariffs/raa.pdf>

process would award capacity commitments and payments to the clean resource capacity mix that satisfies the state's goals with prices set either through competition or set by the Board. In this way, the procurement process would be driven by the State's clean energy goals and be competitive.

The clean capacity requirements can be adjusted upward for the RFP in each delivery year to reflect the increasing annual EMP goals, which will promote the state's transition to cleaner resources.

Any additional capacity obligation that remains after securing capacity through the clean resource RFP can come from a broader RFP that accepts bids from any resource type deliverable to New Jersey. This structure promotes a competitive procurement process that will compensate the baseline resources needed to maintain the reliability of the system as New Jersey transitions toward a clean energy future.

When procuring capacity to satisfy the requirements of an FRR plan, any mechanism used would be required to respect the Capacity Emergency Transfer Limits (CETL) of each of New Jersey's Locational Deliverability Areas (LDAs), which are among the most constrained zones in PJM's system.⁴ The CETL limits for each separately modeled LDA are posted by PJM prior to the BRA for the relevant delivery year. According to the planning parameters posted for 2022/2023 Delivery Year, New Jersey would be required to rely on internal resources in order to effectuate an FRR plan.⁵ While these limits should evolve with upgrades and innovations over time, in the near term, the reliance on existing internal resources will complicate the ability to achieve a viable FRR plan for New Jersey LDAs. The impact of the limited market size for capacity may impact ratepayers to the extent that internal resources are procured at a higher cost as compared to the PJM capacity market. Accordingly, the Board would need to develop its FRR procurement model with care, since cost outcomes would depend on the structure of the capacity procurement and on resulting bidding behavior.

⁴ The Eastern MAAC LDA is a nested region within the MAAC LDA which contains the utility service areas: PSE&G, JCP&L, PECO, AE, DPL, and RECO. The PSEG North LDA is a subzone to the PSEG zone. The AECCO Zone, JCPL Zone and RECO Zone are not modeled LDAs and are part of the Rest of EMAAC LDA.

⁵ See 2022-203 RPM BRA Planning Parameters <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2022-2023/2022-2023-rpm-bra-planning-parameters-report.ashx?la=en>

The capacity mechanism would need to “lock in” revenues for the minimum five-year period to incent potential bidders to commit capacity through the FRR (since FRR capacity providers are not permitted to provide capacity under the PJM RPM construct for a period of five years). However, as it is expected that the cost to develop clean resources will continue to decrease, the Board should consider how the FRR election would capture the cost-competitive benefits of clean resources over time.

Ease of market entry is an essential component of a viable and efficient capacity market, which in development terms relates to PJM's Interconnection Process. Achieving New Jersey's EMP goals requires higher levels of renewable energy, energy storage, energy efficiency, and demand response to be interconnected and operating within PJM's grid. As a result, if electing the FRR alternative or otherwise, the Board should accordingly increase its efforts to work with PJM to address current interconnection hurdles for offshore wind and other clean resources.

Further, the Board should encourage reforms with PJM that provide accurate capacity accreditation for clean energy resources, including energy storage and offshore wind, as well as hybrid resources and other emerging technologies.

VII. THE BOARD SHOULD SUPPORT AND CONTINUE TO INVESTIGATE CARBON PRICING

Although carbon pricing does not directly create an alternative capacity construct, it can be a useful tool that New Jersey can utilize to transition away from carbon-emitting resources. In the context of the FERC MOPR, it can increase revenue to clean energy sources to mitigate the negative impacts of the MOPR.

In theory, an effective carbon pricing mechanism imposes a charge for the marginal impact individual resources have on the environment and health of the population. This charge increases the energy offer price of carbon-emitting resources. Through PJM's economic dispatch algorithm, it will reduce their operations relative to carbon-free energy sources, thus driving investment into clean resources while forcing higher carbon-emitting resources to emit less greenhouse gas emissions or retire as their revenue sources decrease. Carbon pricing pushes more revenues to clean energy resources, thereby mitigating the adverse effects of MOPR.

Since June 2019, a PJM Senior Task Force has been exploring embedding carbon prices inside the PJM dispatch algorithm and including border adjustments as a tool to address leakage and other issues that may arise as a result of a state or states' implementation of carbon pricing. More analysis is needed to determine the cost and emission impacts of carbon pricing in the wholesale markets at different carbon price values and to evaluate how a changing resource mix reflecting New Jersey's clean energy goals impacts costs and emissions.

The BPU should continue to investigate this potentially powerful tool for achieving carbon emissions reduction while being mindful of how it interacts with the markets in an interconnected system. Ørsted welcomes the exploration of carbon pricing mechanisms as a method of transitioning to a cleaner energy fuel mix and encourages the BPU to support the continued analysis by PJM in its Senior Task Force.

VIII. CONCLUSION

New Jersey should continue to be a national leader in clean energy development. As the BPU explores alternative means of achieving resource adequacy, it should carefully consider how different mechanisms can help the state meet its clean energy goals and how they impact ratepayers. Any mechanism pursued by the Board should appropriately value clean energy resources for both their reliability and environmental benefits, minimize costs to ratepayers, and encourage economic development.

Alternatives to the PJM RPM capacity construct should continue to be explored and refined by the Board, as it navigates through the complicated waters in the wake of the FERC MOPR Order. Ørsted appreciates the opportunity to work with the Board on these crucial issues and is prepared to maximize the value of its Projects to New Jersey.

Respectfully submitted,



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