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PJM Interconnection
Markets Implementation Committee – Meeting
2750 Monroe Boulevard
Audubon, PA 19403
January 8th, 2020

Regarding:

Comments on the FERC Order Capacity Market Minimum Offer Price Rule (MOPR) as outlined in Dockets EL16-49 and EL18-178[1] (December 19, 2019)

Lightsource BP welcomes the opportunity to submit the following comments summarizing the impact of the expanded MOPR on its current PJM solar portfolio.

[1] "Order Establishing Just and Reasonable Rate"; Calpine Corporation, Dynegy Inc., Eastern Generation, LLC, Homer City Generation, L.P., NRG Power Marketing LLC, GenOn Energy Management, LLC, Carroll County Energy LLC, C.P. Crane LLC, Essential Power, LLC, Essential Power OPP, LLC, Essential Power Rock Springs, LLC, Lakewood Cogeneration, L.P., GDF SUEZ Energy Marketing NA, Inc., Oregon Clean Energy, LLC and Panda Power Generation Infrastructure Fund, LLC v. PJM Interconnection, L.L.C. PJM Interconnection, L.L.C., *December 19th, 2019*

LSBP – OVERVIEW

Lightsource BP (LSBP) is a global utility-scale solar developer and long-term asset owners with over 2.3GW of solar capacity currently under management, over 5GW of projects under development in the US. LSBP is a full-service platform, providing in-house design and engineering, permitting, finance, construction, and long-term asset ownership and operations. Of the 5 GW in the US, 1GW has been submitted into the PJM interconnection queue and have progressed through several stages of development, ensuring buildability and de-risking development challenges. Forecasted PJM capacity market revenues are an integral component of PJM solar financeability, and a majority of the 1 GW in our PJM portfolio is at-risk for being priced out of the capacity market auction. LSBP appreciates this opportunity to comment on specific provisions that clarify renewable resource participation in the upcoming 2022/23 BRA.

VOLUNTARY RECS SHOULD NOT BE CONSIDERED STATE SUBSIDIES

LSBP asserts that voluntary RECs should not be considered State Subsidies for three reasons: (1) voluntary RECs are a separate and distinguishable market from state compliance markets, (2) voluntary RECs trade at market levels far below compliance markets, historically and currently between 0.5% - 2.50% the value of PJM state compliance solar RECs, and (3) mandatory usage of REC tracking systems will alleviate concerns of voluntary versus compliance market treatment /monetization of RECs during the specified capacity year.

To describe point (1) further, in its October 2nd, 2018 Initial Submission, PJM asserted that the voluntary REC market, largely driven by corporate sustainability goals, is separate and distinguishable from state compliance markets, driven by state renewable portfolio mandates, and therefore "reasonably not considered state subsidies."[2] Corporate sustainability targets that include renewable energy development have increased in the last few years, creating a separate distinguishable source for renewable demand.

According to research firm Wood Mackenzie Power & Renewables, corporates accounted for 22 percent of 2018 power-purchase agreements for renewables in the U.S[3]. Corporate PPAs have widely standardized the purchase of facility specified RECs with the underlying facility energy. Projects located in states with nonexistent or limited compliance programs are often required to register under the Green-e® voluntary national standard, which strictly prohibits projects from double counting voluntary RECs as state compliance RECs[4]. LSBP asserts that if project developers opt to certify and sell project RECs as Green-e Eligible in a PPA, and not as a state compliance resource, it should not be treated as a state subsidized resource as it is not participating and realizing value in a state program.

[2] Docket No. EL16-49, Docket Nos. ER18-1314-000, -001, PJM Interconnection, L.L.C., Docket No. EL18-178-000 (Consolidated)
[3] *Corporate procurement of wind and solar in the US 2018*, Wood Mackenzie Power & Renewables, February 2019
[4] Center for Resource Solutions Green-e Framework for Renewable Certification (version 1.0). https://www.green-e.org/docs/energy/framework/Green-e%20Framework%20for%20Renewable%20Energy%20Certification.pdf

Second, voluntary REC prices have been consistently lower than compliance market RECs. In a recent LSBP survey of institutional broker price sheets, a Vintage 2020 National Green-e voluntary REC is currently marked between $0.50 - $1.00/MWh compared to a Vintage 2020 New Jersey Solar REC at $227.50/MWh, a Vintage 2020 Maryland Solar REC at $80.00/MWh, and a Vintage 2020 Pennsylvania Solar REC at $40.00/MWh[5]. As such, estimated project revenues from voluntary REC sales pale in comparison to estimated project revenues from state compliance RECs and should not be considered Material.

Third, the role of REC tracking systems should alleviate all concerns of present and future REC usage and treatment in both voluntary and state mandated programs. In the December 19th FERC Order, FERC stated the following:

"As to voluntary REC arrangements, meaning those which are not associated with a state mandated or state-sponsored procurement process, based on the record in this proceeding, we agree with intervenors that it is not possible, at this time, to distinguish resources receiving privately funded voluntary RECs from state-funded or state-mandated RECs because resources typically do not know at the time of the auction qualification process how the REC will be eventually used."[6]

The majority of REC Tracking systems used in the US environmental markets such as the Midwest Renewable Tracking System (M-RETS), PJM Generation Attributes Tracking System (PJM-GATS) and the North American Renewables Registry (NARR) have a separate voluntary REC category denotation option, often listed as 'Green-e Eligibility'. These projects, as registered through these tracking systems, require either a state registration ID or voluntary program certification ID to track and transfer RECs[7]. Simply put, a project can easily show through the tracking system during the auction year if it is registered to sell only voluntary RECs or both voluntary and state compliance RECs. In this way, tracking system monitoring is a viable option to account for how the REC can be monetized at the time of the auction qualification process and prohibit double counting. LSBP recommends PJM add tracking system language in a final form of a

Capacity Market Seller Certification of Capacity Resource with Actionable Subsidy to account for the voluntary program-only designation.[8]

NET CONE CALCULATION SHOULD FACTOR A 40 YEAR LIFE OF SOLAR ASSETS AND SOLICIT STAKEHOLDER INPUT FOR E&AS REVENUE QUANTIFICATION

[5] Vintage 2020 REC Pricing is calculated as the current January 5th, 2020 EOD average bid-side settle across various institutional broker sheets including Marex Spectron, ICAP and GFI.
[6] See Footnote 1.
[7] See PJM GATS Public Reports:
https://gats.pjmeis.com/gats2/PublicReports/RenewableGeneratorsRegisteredinGATS
[8] Attachment 1, Section (7) Revision to include: *(7) A renewable energy credit (including for onshore and offshore wind, as well as solar, collectively, RECs) will not be considered to be a Material Subsidy, if the Capacity Market Seller sells the REC to a purchaser that is not required by a state program to purchase the REC, and that purchaser does not receive any state financial inducement or credit for the purchase of the REC, and if the project in its respective REC tracking system, only lists a voluntary program designation.*

In its upcoming March 18th compliance filing, PJM is directed to develop MOPR floor prices for all resource classes and new resource floor price will be Net CONE for the resource type.[9] Net CONE, as calculated is equal to = CONE [Gross CONE] – Energy & Ancillary Services Revenues – Fuel Costs – Variable O&M/Emission costs[10]. In its December 19th Order, FERC agreed with PJM's useful life of 20 years, however, LSBP strongly recommends using 40 years for solar assets, as widely used as an industry standard. LSBP supports and echoes the Clean Industries assertion:

> Using the shorter 20-year useful life increases the annual revenue requirement and drives the default MOPR floor prices to an uncompetitive level. The default values should be updated to account for these asset-class specific parameters. Arbitrarily reducing the useful life of utility-scale solar and wind facilities will have an unjust and unreasonable impact on solar and wind resources' ability to participate in PJM's capacity market if the MOPR is ever applied to such resources.[11]

Furthermore, LSBP recommends PJM create a stakeholder process to accurately quantify E&AS revenues for asset-class specific resources in its net CONE calculation. LSBP echoes the Clean Energy Industries assertion that the proposed MOPR Floor Offer Prices for 2022/2023 BRA substantially overstate solar capacity market revenue requirements[12].

ALL NON-STATE SUBSIDIZED RESOURCES SHOULD BE REVIEWED UNDER UNIT SPECIFIC EXEMPTION PROVISIONS

In its December 19th Order, FERC directed PJM to review the Unit-Specific Exemption, expanded to cover existing and new state-subsidized resources of all resource types, to permit any resource that can justify an offer lower than the default offer floor to submit such bids to the Market Monitor for review[13]. LSBP supports a PJM stakeholder process in advance of the 2022/23 BRA in order to develop asset class specific parameters for the unit-exemption review process.

[9] PJM Capacity Market Minimum Offer Price Rule Order Summary. January 3rd, 2020. https://pjm.com/-/media/committees-groups/committees/mic/2020/20200108/20200108-item-04a-ferc-order-on-mopr.ashx
[10] PJM Cost of New Entry: Combustion Turbines and Combined-Cycle Plants with June 1, 2022 Online Date. The Brattle Group. *April 18, 2018*
[11] Consolidated Dockets ER18-1314-000, ER18-1314-001, EL18-178-000. Reply Comments of the Clean Energy Industries Application of the Minimum Offer Price Rule, *November 2018*.
[12] See Footnote 2, 11.
[13] See Footnote 1.