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VIA Electronic Delivery

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PJM Interconnection
2750 Monroe Blvd.
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Paul G. Pinsky, Director
Maryland Energy Administration
1800 Washington Boulevard, Suite 755
Baltimore, Maryland 21230

Dear Director Pinsky,

Thank you for your correspondence dated March 19, 2024, urging PJM to consider and develop an interim solution as an alternative to a Reliability Must-Run (RMR) agreement with the Brandon Shores generating station. We wish to assure you that PJM is working hard to affordably maintain grid reliability as Maryland's clean energy policies are advanced.

As you recognize, and as described in our deactivation analysis, the near-term reliability violations and potential voltage collapse that would result if the Brandon Shores generating units are prematurely retired are of serious concern.¹ During our review in 2023, PJM evaluated a number of potential options, including resource additions, operating procedures and transmission upgrades, prior to requesting that Brandon Shores Units 1 and 2 remain operational until longer-term reliability solutions are put in place. RMR arrangements are not preferred by PJM, and PJM will only request that a unit remain operational via an RMR arrangement as a last resort to preserve reliable electricity delivery to homes and businesses in a given region.

More recently, PJM evaluated the alternative solution that you reference in your letter, and we found that the four-hour battery storage concept developed by Telos Energy and GridLab is not a realistic option at present.² PJM's analysis, attached, reviewed several factors, including the length of time it would take to construct a battery storage project of this size as well as its estimated cost. More importantly, our analysis concluded that this battery storage concept, on its own, is not technically viable to resolve the reliability violations or avoid the need for an RMR agreement at this time.

Timeliness

In order to cost-effectively address the reliability violations caused by the potential deactivation of Brandon Shores, PJM followed its FERC-approved process to consider viable, technology-neutral alternative solutions. This sponsorship model process is similar to how PJM's neighboring grid operators consider alternatives, as referenced in your letter. In order for any concept to be timely, it would need to be proposed to PJM by a project sponsor (either as a resource or transmission asset) through PJM's established processes.

Assuming the Telos/GridLab concept were to be selected by PJM, the battery would need to be designed, sited, procured, built and operational by June 1, 2025, to contribute to the reliability needs of the Baltimore Gas and

¹ [Generation Deactivation Notification Update](#), PJM.

² See BESS Technical Viability – Wagner and Brandon Shores Retirements, PJM Transmission and Operations Planning, May 3, 2024.

Electric (BGE) system, assuming the generation would retire by that date. In light of this highly compressed timeline, the complexity of designing and siting utility-scale storage projects, and the lack of an actual proposal at this late stage, it would be practically impossible to have this battery storage project in service in less than 13 months to avoid the need for an RMR agreement.

Cost-Effectiveness

The proposed battery used in the Telos/GridLab concept is sized at 800 MW capacity, with a four-hour duration. If this concept were to be successfully developed, it would be the second largest battery in the United States. For cost comparison, a smaller 680 MW, four-hour duration battery that is currently being developed in California will cost over \$1 billion.³ In contrast, PJM's FERC-approved package of transmission solutions to resolve the issues caused by the retirement of Brandon Shores will cost approximately \$796 million.⁴ This amount would be in addition to the cost of any RMR agreement to keep these generating units online until the transmission solutions enter service.⁵

Technical Viability

Today, the BGE system relies on the availability of the internal generation that currently provides more than 2,000 MW of capacity and supplies a considerable portion of the system load in the greater Baltimore area. If this generation were to retire next year, reliability violations could lead to voltage collapse across the entire BGE system, as well as overloads throughout the BGE system and across PJM.

In reviewing the Telos/GridLab concept, PJM evaluated the performance of the proposed battery solution using both the originally submitted size of 600 MW x 4 hours and the updated size of 800 MW x 4 hours. Our reliability analysis indicates that neither the 600 MW or 800 MW batteries address (on their own) the reliability needs of the BGE system under the 2025 and 2027/2028 system conditions, which represent the earliest and somewhat more realistic in-service date for a proposed battery. As such, this concept, regardless of size, is not able to replace the need for the existing generation capacity until the FERC-approved transmission solutions needed to support the BGE and greater PJM system are energized.

Additionally, from strictly a constructability perspective, the Telos/GridLab concept does not have a workable integration plan to the PJM system. Many details are not addressed, as it is unclear who will sponsor, procure, own and operate the battery. The concept also assumes utilizing the existing Brandon Shores site for the installation of the battery and the utilization of the existing transformers. However, PJM has not received any confirmation that the plant owner would accept such an arrangement, nor is there an estimated cost of such an arrangement that would allow PJM to evaluate the overall cost and feasibility of this battery concept.

In conclusion, while a large battery could reduce the severity of the reliability concerns in the BGE system following the eventual retirement of the Brandon Shores and Wagner units, the battery concept would not replace the need for an RMR agreement or address the system reliability needs in the near and longer term. PJM's analysis ultimately concludes that to maintain reliability in Maryland, the Brandon Shores units cannot be retired until new transmission reinforcements are in place. While the proposed battery concept could offer some local supply within the BGE

³ [Calpine To Bring Majority of 680 MW California BESS Online This Summer](#). Energy Storage News, Apr. 5, 2024.

⁴ PJM Interconnection, L.L.C., 185 FERC ¶ 61,107 (Nov. 8, 2023).

⁵ On April 18, 2024, Talen Energy filed a request with FERC for approval of its proposed RMR agreements for both its Brandon Shores and Wagner units. See FERC Docket No. ER24-1787-000.

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system, if placed in service by next summer, it would not eliminate the need to construct major transmission reinforcements.

I appreciate you sharing your thoughts and bringing this battery concept to our attention. We look forward to Maryland's continued engagement and interest in matters involving the bulk power system.

Sincerely,

Manu Asthana
President & CEO, PJM Interconnection, LLC

cc: PJM Board of Managers