Via email May 30, 2024

President Manu Asthana
Executive Vice President Aftab Khan
Senior Vice President Michael Bryson
Vice President Paul F. McGlynn
PJM Interconnection, L.L.C.
2750 Monroe Boulevard
Audubon, PA 19403

Re: Alternatives to Brandon Shores Reliability-Must-Run Arrangement

Dear President Asthana, Executive Vice President Khan, Senior Vice President Bryson, and Vice President McGlynn,

Since Sierra Club learned of PJM's intention to retain Brandon Shores under a reliability must-run arrangement in June 2023, we have been evaluating whether alternative approaches could support reliability while the transmission projects approved by PJM are constructed. We appreciate the cooperation of PJM's Special Studies team, and that of other PJM staff, in providing data and answering questions that enabled our partners, GridLab and Telos Energy, to construct a power flow model in which they could test the adequacy of alternative solutions. As conveyed to PJM and other interested stakeholders earlier this year, GridLab and Telos concluded that an alternative consisting of an 800 MW 4-hour battery, along with reconductoring of specific lower-voltage transmission lines and acceleration of voltage support technologies already approved by PJM, could mitigate the reliability violations that PJM identified in connection with Brandon Shores' requested deactivation as of June 2025.[1]

On May 3, PJM published a 20-page response to the alternative proposed by GridLab and Telos.[2] While Sierra Club, GridLab, and Telos appreciate PJM staff's evaluation of the alternative, we are concerned that PJM's report compared the alternative to objectives that it was not intended to meet, and tested it under a scenario that included other unexplained system changes that greatly increased the overall reliability risk in the region. The attached memorandum from GridLab and Telos Energy describes these concerns, as well as numerous aspects of Telos' public analysis that PJM seemingly overlooked.

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[1] GridLab, Brandon Shores Retirement Analysis (Feb. 2024), available at https://gridlab.org/brandon-shores-retirement-analysis/.

[2] PJM Transmission and Operations Planning, BESS Technical Viability – Wagner and Brandon Shores Retirements (May 3, 2024) ("PJM BESS Analysis"), available at https://www.pjm.com/-/media/library/reports-notices/special-reports/2024/20240503-bess-technical-viability-wagner-and-brandon-shores-retirements-study.ashx.

The GridLab/Telos alternative was designed to avoid all or part of a Brandon Shores reliability must-run arrangement, *not* to also avoid a reliability must-run arrangement at the H.A. Wagner facility. While the Executive Summary of PJM's report acknowledges this fact, the report expends multiple pages discussing the serious reliability violations that would occur if both Brandon Shores and Wagner were deactivated. It is no surprise that a solution designed to replace approximately 1,200 MW of generation would be inadequate to replace more than 2,000 MW of generation, and PJM's focus on these deficiencies distracts from a productive discussion regarding the potential of the GridLab/Telos alternative for its intended purpose.

When PJM does evaluate the GridLab/Telos alternative against the appropriate objective—replacing Brandon Shores—it finds reliability violations that are more serious than those it had found with the Brandon Shores deactivation. To understand these surprising results, Telos reviewed the case information that PJM shared and found that several of the remaining generation units in the BG&E zone were turned off in the model. This enormous change in the system resources available, which PJM had not assumed in the model used to test the impacts of Brandon Shores' deactivation, clearly contributed to the reliability violations observed in PJM's Scenario 2. PJM's public report does not acknowledge or justify these additional stressors that it imposed when testing the GridLab/Telos alternative. Sierra Club supports GridLab and Telos' recommendations in the attached memorandum regarding additional analysis that PJM should conduct to more clearly understand the reliability of the GridLab/Telos alternative under a 2028 case that does not remove generation that has not yet announced deactivation.

We are further concerned by statements in PJM's response around the reliability contributions of energy storage resources, such as PJM's statement that "[a] feasible BESS solution will need to demonstrate that it could be charged and made available to provide reliability services for the longest possible duration that the replacement thermal unit can provide."[3] This statement suggests that PJM only views storage as a capable solution where it can mimic the performance of a thermal unit, rather than examining whether storage of a specified duration (in combination with other solution components) can address the relevant reliability violations. PJM's resource adequacy modeling of energy storage resources accounts for their likely availability during times of system stress; we urge PJM to adopt an equivalent perspective in this context rather than viewing limited duration resources as categorically inadequate.

PJM's report also faults the GridLab/Telos alternative for numerous constructability issues, such as not having a project sponsor or confirmed access to the Brandon Shores site for construction. This solution was brought forward in a collaborative spirit, to explore whether alternatives that could address reliability needs at lower cost, while also advancing state policy requirements, are viable. As conveyed to PJM, confirmation of the technical adequacy of the solution was considered a prerequisite to project development steps that others might undertake.

[3] PJM BESS Analysis, at 11.

Sierra Club, GridLab, and Telos Energy are not in the project development business, but instead seek to advance the discussion of cost-effective solutions to support reliability and implementation of state clean energy policies.

The attached memorandum conveys responses by Telos Energy to PJM's analysis and reporting of results, as well as recommendations for further analysis. Sierra Club, in partnership with GridLab and Telos Energy, remains committed to constructive engagement with PJM on understanding how well-established technologies like energy storage can help to address localized reliability issues at lower cost and while offering greater flexibility to PJM operators. We understand that several PJM states, as well as consumer advocates, are also interested in a process to explore more diverse and cost-effective solutions to short-term reliability needs, and urge PJM to pursue these discussions in a comprehensive and transparent process.

Respectfully submitted,

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