Agenda Date: 3/4/26
Agenda Item: 8A

STATE OF NEW JERSEY

Board of Public Utilities
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Trenton, New Jersey 08625-0350
www.nj.gov/bpu/

CLEAN ENERGY

IN THE MATTER OF THE GARDEN STATE ENERGY STORAGE PROGRAM ("GSESP") PURSUANT TO P.L. 2018, C.17	)))))	ORDER ON THE OUTCOME OF THE 2025 GSESP SOLICITATION DOCKET NO. QO22080540

Party of Record:

Brian O. Lipman, Esq., Director, New Jersey Division of Rate Counsel

BY THE BOARD:

In this Order, the New Jersey Board of Public Utilities ("Board" or "BPU") awards incentives to three winning energy storage projects with a combined nameplate or installed capacity[1] of 355 MW in the Garden State Energy Storage Program's ("GSESP") inaugural Phase 1, Tranche 1 ("Tranche 1") solicitation.[2] The Board evaluated ten (10) qualified projects with total installed capacity of approximately 543 MW, and selected three (3) projects. In this Order, the Board also announces the name of each winning bidding party and project, as well as their bid price, project capacity, and the county in which the project is located.

BACKGROUND

On May 23, 2018, Governor Murphy signed the Clean Energy Act of 2018 ("CEA"),[3] which required the Board to ensure the deployment of 2,000 MW of energy storage by 2030 in order to strengthen the resilience of the State's electric grid, reduce carbon emissions, and facilitate New

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[1] P.L. 2025, c.136, which governs this solicitation, uses the term "installed capacity," which it defines as "the nameplate output of an eligible project, measured in megawatts of alternating current (MW AC), that is available to the electric grid," N.J.S.A. 48:3-121.2. The Board interprets "installed capacity" as defined by P.L. 2025, c.136 to be synonymous with "nameplate capacity," and generally uses the former term in this Order to maintain consistency with the governing legislation.

[2] The GSESP was set up to have at least two phases: Phase 1 provides fixed incentives for transmission-scale battery energy storage systems, while Phase 2, which is still under development, will provide incentives for distribution-scale battery energy storage systems. Phase 1 involves competitive solicitations, known as Tranches.

[3] P.L. 2018, c.17.

Jersey's clean energy transition.[4] The GSESP is the key component of the Board's multi-year effort to implement this goal. The GSESP Tranche 1 solicitation and this Order also serve to implement the requirements of P.L. 2025, c.136, which took effect on August 22, 2025. This law specifically requires the Board to approve incentive awards to at least 350 MW of transmission-scale storage in a Tranche 1 solicitation, and at least 1,000 MW of transmission-scale storage in total between a Tranche 1 and Tranche 2 solicitation. As P.L. 2025, c.136 was pending legislation at the time, the Board's June 18, 2025, Order ("GSESP Launch Order") selected the Tranche 1 solicitation target of 350 to 750 MW to ensure compliance with the bill in the event it became law.

In addition to satisfying these legal requirements, the Board intends for the GSESP and the current Tranche 1 solicitation to mitigate the ongoing electric capacity supply crunch that is driving dramatic rate increases for New Jersey consumers and imperiling grid reliability. This supply crunch led to record high prices in PJM Interconnection, LLC's ("PJM") July 2024 capacity auction,[5] which was the primary driver of recent retail rate hikes,[6] and again in the July 2025 capacity auction.[7] With demand expected to grow, especially from data centers, and long timelines for building new generation, energy storage stands out as the fastest and most scalable solution. It dominates New Jersey's approved capacity pipeline in PJM and can be deployed more quickly than traditional power plants, making it a key tool for stabilizing rates and alleviating an imminent capacity shortage that is a direct threat to system reliability.

Phase 1 of the GSESP, established by the GSESP Launch Order and following the structure in P.L. 2025, c.136, represents the first incentive structure designed to facilitate transmission-scale energy storage development in the State. As highlighted in the GSESP Launch Order, the program employs a competitive solicitation to ensure that the cost of awards reflects the lowest possible incentive contribution from New Jersey ratepayers.

Phase 1 of the GSESP will provide annual fixed incentives, paid out over 15 years, to at least 1,000 MW of new energy storage capacity in New Jersey. Eligible participants in Phase 1 solicitations include transmission-scale energy storage projects (i.e., projects that have an installed capacity of at least 5 MW); solar-plus-storage project applications that do not qualify for storage incentives under the Board's SuSI Program and have a storage component with an installed capacity of at least 5 MW; and storage additions of 5 MW or greater to existing solar facilities or other Class I renewable energy resources, provided the storage component does not also receive a direct monetary incentive, such as a grant or rebate, from the BPU or any other New Jersey program specifically designed to support storage. The Board intends to hold at least two solicitations under Phase 1 of the GSESP, of which the present Tranche 1 solicitation is the first.

Per the GSESP Launch Order, awarded projects will have 30 days following this award Order to register their GSESP-eligible facility with the Board. Awarded projects must also submit estimated

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[4] N.J.S.A. 48:3-87.8(d).

[5] Ethan Howland, PJM Capacity Prices Hit Record Highs, Sending Build Signal to Generators, Util. Dive (July 31, 2024), https://www.utilitydive.com/news/pjm-interconnection-capacity-auction-vistraconstellation/722872/.

[6] Press Release, N.J. Bd. of Pub. Utils., NJBPU Announces Conclusion of New Jersey's Annual Electricity Supply Auction (Feb. 12, 2025), https://www.nj.gov/bpu/newsroom/2025/approved/20250212.html.

[7] Ethan Howland, PJM Capacity Prices Set Another Record with 22% Jump, Util. Dive (July 23, 2025), https://www.utilitydive.com/news/pjm-interconnection-capacity-auction-prices/753798/

dates for project milestones listed in the Order within the next 30 days of receiving notice of a fixed incentive award. A complete registration package must be submitted to the Board prior to the commencement of construction.

2025 Solicitation – GSESP Phase 1, Tranche 1

The pre-qualification window for the present Tranche 1 solicitation opened on June 25, 2025, and the bid submission closed on August 20, 2025. Application instructions, an application checklist and a scoring rubric were posted on the GSESP website.[8] The Tranche 1 solicitation is using a "pay-as-bid" model, in which winning bidders receive the incentive amounts requested in their bid submissions.

All projects that competed in the Tranche 1 solicitation first had to prequalify by demonstrating that they meet specific tranche eligibility criteria and other project maturity requirements. In implementing the requirements for Tranche 1, the Board sought to balance robust competition with the need to ensure that participating projects have a reasonable likelihood of reaching commercial operation within the program's established timelines.

Following prequalification application requests, facilities were able to submit a final application for an incentive award, specified in dollars per MW-year of energy storage installed capacity. Ultimately, 11 final bids were submitted during Tranche 1, totaling nearly 629 MW of installed capacity, and 2,580 MWh of energy storage capacity. However, Board Staff ("Staff") determined that one of these eleven final applicants, Pearl Storage LLC ("Pearl"), did not satisfy the new statutory project maturity requirements specified in P.L. 2025, c.136, and as such had to disqualify it.[9] This left ten (10) qualifying projects totaling nearly 543 MW of installed capacity and 2,064 MWh of energy storage capacity.

Staff Recommendations

The Board's commitment to the dual goals of expanding energy storage resources to facilitate the State's clean energy transition and keeping ratepayer costs as low as possible has informed the design of the GSESP Program. As noted above, the competitive solicitation process ensures that New Jersey ratepayers are supporting projects that seek the lowest incentive contribution, while also ensuring that incentive values reflect current market conditions and provide a long-term, guaranteed incentive structure to support developer investment.

Energy storage delivers a wide range of benefits, making it a vital tool for modernizing the grid and supporting clean energy goals. These benefits include capacity cost savings, which are likely to be the most significant financial benefit to ratepayers, but energy storage also plays a critical role in enhancing grid reliability by providing the potential for frequency regulation and voltage support, while enabling greater integration of renewable energy through load shifting and curtailment reduction. Further, it offers economic advantages such as peak shaving, energy

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[8] Energy Storage, N.J. Clean Energy Program, https://cleanenergy.nj.gov/programs/energy-storage (last visited Feb. 25, 2026). https://cleanenergy.nj.gov/programs/energy-storage

[9] See N.J.S.A. 48:3-121.3(b)(3). These maturity requirements came into effect on August 22, 2025, after Staff completed prequalification review and applicants submitted their final bids. At the time of prequalification review, the disqualified project was deemed prequalified based on the fact that it met the criteria specified in the GSESP Launch Order. This is why Staff only identified the problem following the submission of final bids.

arbitrage, deferring costly infrastructure upgrades, and generating new employment opportunities. Environmentally, storage can lower emissions and improve air quality and public health, especially when displacing fossil fuel peakers and minimizing environmental impacts.

In this first solicitation, the Board received a strong response from the industry, with 10 qualifying submissions totaling nearly 543 MW of installed capacity. Staff reviewed all bids and determined that awarding 355 MW of storage capacity would allow the Board to cost-effectively meet the Tranche 1 target of 350-750 MW.

In accordance with the guidance in the GSESP Launch Order, Staff ranked these 10 qualifying bids on a price-per-unit basis by dividing each bidder's requested annual incentive (in dollars per year) by the expected average accredited capacity, or Unforced Capacity (UCAP) of the project over the first five years of planned commercial operation.[10] This calculation yielded a per-unit incentive level in dollars per megawatt of UCAP per year ($/MW UCAP-year). As explained in the GSESP Launch Order, the Board used this approach because the duration of a storage project (the length of time it can discharge at its installed capacity) and the number of capacity interconnection rights ("CIRs," which essentially represent how much power the transmission system can reliably take from a given project under peak load conditions) strongly influence the capacity value of a project in the PJM market. A simplistic comparison between storage projects based solely on their incentive price per unit of installed capacity may thus have failed to secure the greatest benefit to the grid and ratepayers per incentive dollar.

More specifically, Staff estimated UCAP values for each project by multiplying the five-year average of the projected PJM Effective Load Carrying Capability ("ELCC") class ratings for each's project applicable ELCC class by the amount of MW worth of capacity interconnection rights ("CIRs") the project held. Staff determined each project's applicable ELCC class by determining the maximum length of time a storage project could sustain a rate of discharge equal to the number of CIRs it holds. For example, a storage project with 100 MW of CIRs and 400 MWh of energy storage capacity could sustain a 100 MW rate of discharge for four hours, and thus would be assigned to the 4-hour storage ELCC class.

After bids were ranked on a per-unit basis, Staff and Staff's Consultant calculated a Community Benefits Adjusted Bid Price ("CBABP") developed to incorporate consideration of community benefits. The calculation enables implementation of the Board's decision in the GSESP Launch Order to potentially pay up to a ten percent per-unit price premium to projects that provided greater community benefits.[11] Staff notes that the outcome of the process of calculating CBABPs and considering community benefits did not alter the price-ranked order of the bids because the differences in per-unit bids prices between projects were more significant than the differences in the magnitude of community benefits that they provided.

As such, Staff recommends awarding the lowest-cost project first, and selecting additional projects in ascending price-ranked order until the solicitation's minimum 350 MW target is met. Staff recommends then proceeding to award additional projects based on three factors including:

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[10] In re the Garden State Energy Storage Program ("GSESP") Pursuant to P.L. 2018, C.17, Docket No. QO22080540, Order dated June 18, 2025, at 23.

[11] Ibid. ("Staff recommends that the Board retain the discretion to award incentives to transmission-scale energy storage systems that do not have the lowest per-unit bids on the basis of community benefits if . . . [t]he per-unit bid price is no more than ten percent higher than the lowest rejected bid price . . . ."); id. at 34 ("[T]he Board **HEREBY APPROVES** all recommendations made by Staff above . . . .").

the reasonableness of the bids in relation to the confidential benchmark described below, the capacity savings anticipated, and the statutory requirement to award at least 1,000 MW of installed storage capacity between the Tranche 1 and Tranche 2 solicitations. Staff followed this process to create its recommended list of projects to award. To evaluate the reasonableness of incentive levels requested by the bidders, Staff relied on a confidential incentive benchmark developed through a techno-economic analysis using the National Laboratory of the Rockies' (formerly the National Renewable Energy Laboratory) System Advisor Model ("SAM") to estimate the incentives needed to ensure successful project development. Staff then considered the Capacity Savings analysis presented in Appendix B and a Rate Impact analysis described below to determine the relative value each of the projects recommended for award would have with respect to ratepayers. While Staff did not treat the confidential benchmark incentive as an outcome-determinative threshold, ultimately Staff decided to recommend awarding only projects that submitted bids that were lower than this benchmark as these projects are anticipated to result in capacity cost savings that exceeded the cost of the bid.

The result of this process is that Staff recommends awarding the three proposals submitted by Woods Landing Storage LLC, Two Rivers Energy Storage LLC, and North America Energy Storage Corp. listed in the table below. These projects would collectively provide 355 MW of installed capacity, 5 MW above the minimum target.

Bidding Party and Project	**AC Installed Capacity (MW ICAP)**	**Annual Incentive Requested**	**Bid Incentive Requested ($/MW ICAP-Year)**	**Incentive Cost per MW of Est. Accredited Capacity ($/MW UCAP-year)**	**CBABP ($/MW UCAP-year)**	**Municipality, County**
Woods Landing Storage LLC	200	$15,000,000	$75,000	$156,904	$148,916	Sayreville, Middlesex County
Two Rivers Energy Storage LLC	150	$12,276,000	$81,840	$171,213	$165,610	Ridgefield, Bergen County
North America Energy Storage Corp.	5	$300,000	$60,000	$210,084	$209,129	Bordentown, Burlington County
Total Capacity	355					

Pursuant to P.L. 2025, c.136, the incentive award will be paid over 15 years for each awarded project, as outlined in the payment schedule in Appendix A of this Order.

Staff recommends that the awarded project's continued receipt of the full value of the annual fixed incentive award payments be contingent on being available for dispatch for a minimum number of hours per year. Specifically, Staff recommends requiring that Tranche 1 incentive award recipients be available for dispatch at least 7,900 hours per year (approximately 90% of the 8,760 hours in a non-leap year) to receive their full annual fixed incentive payment. If a project is available for dispatch for less than 7,900 hours in a given year, Staff recommends proportionately reducing the annual incentive payment for the relevant year by an amount equal to the number of hours the project fell short of the 7,900-hour requirement divided by 7,900 hours. For example, if a project was only available for dispatch for 7,505 hours in the relevant year, it would have fallen short of the requirement by 495 hours. As 495 hours is 5% of 7,900 hours, the project's annual fixed incentive payment would then be reduced by 5%.

For the purposes of determining dispatch availability, Staff further recommends defining the relevant year as an energy year (June 1 to May 31). Staff also recommends designating the first full energy year following the date a project achieves commercial operation as the first energy year in which its compliance with dispatch availability requirements is assessed. Thus, if a project achieves commercial operation anytime between June 1, 2027, and May 31, 2028, Staff or the Program Administrator would start to assess compliance with the 7,900-hour requirement on June 1, 2028. Staff or the Program Administrator would then continue to assess the project's compliance every energy year through May 31, 2042 (the end of the 15-year period in which the project receives fixed incentives).

Staff notes that this requirement will also enable the Board to cease making incentive payments to awarded projects that outright fail to continue operating. A project that, for any reason, failed to continue functioning would not be available for dispatch. If such a project was out of service for an entire year, it would have its annual incentive payment reduced to zero. Thus, this requirement will also ensure ratepayers are not forced to pay for failed projects that provide no ongoing benefit to the grid.

Staff recommends that the Board require Tranche 1 incentive recipients to submit construction updates before operation and to provide periodic reporting on system performance once active. The projects must also notify the Board of any changes in ownership, development, or operation. Specifically:

- During system operation, the system owner shall provide a report with key operational metrics, including but not limited to the number of hours it was experiencing a forced outage and the number of hours it was out of service due to a planned outage, to the Board or the Program Administrator within five (5) business days after the last day of each periodic reporting period.
- Within 30 days of a change in system owner, the new system owner shall notify the Board of their individual and/or corporate names, tax identification number, address, contact telephone number, and the percentage of the energy storage system they own. The new system owner shall update any pre-development security as necessary.
- Within 30 days of a material change in the project operator, either the system owner or the new project operator shall notify the Board of their individual and/or corporate names, tax identification number, address, and contact telephone number.
- Within 30 days of a material change in the project developer, including a change in a subcontractor, either the system owner or the new project developer shall notify the Board of their individual and/or corporate names, tax identification number, address, and contact telephone number.

Additionally, Tranche 1 award recipients must have meters and telemetering equipment to track energy exchange and report data that comply with the requirements as outlined in each respective award recipients' interconnection agreement.

If a Tranche 1 award recipient is co-located with an existing generation resource, or an electric generator is subsequently co-located with the transmission-scale energy storage system, Staff recommends that the Board require the system owner to install a revenue-quality meter or meters capable of measuring the power and energy discharged by the transmission-scale energy storage system separately from the power and energy produced by the generation resource, along with telemetering equipment and data acquisition services sufficient for producing periodic operating reports, pertaining to the transmission-scale energy storage system.

Staff recommends that the Board require Tranche 1 award recipients provide additional information during the term of the incentive award, as the Board may reasonably require to implement and enforce the terms of this order, including but not limited to annual reports to the Board. Staff also recommends that awarded projects be required to report actual cost and revenue data to help inform future determinations of necessary storage incentive levels as the Board progressively transitions the New Jersey energy storage industry to a fully market-based model that no longer receives ratepayer support. To these ends, the annual reports should include:

1. A list of each PJM market the energy storage resource participated in the past year available to storage, including energy, capacity and ancillary services, and revenues earned from these markets;
2. Construction costs in the first report following COD, and operation costs for the period that incentives are provided following the first full year of operations or post-COD;
3. If applicable, quantitative evidence using metrics tailored to the specific evidence claimed, demonstrating that community benefits claimed were realized to the extent feasible; and
4. Greenhouse gas emissions related to peak, non-peak, and total MWh charged and discharged, as can be reasonably measured or estimated.

Finally, as noted above, the enactment of P.L. 2025, c.136 disqualified Pearl's project, which Staff had deemed prequalified under the terms of the GSESP Launch Order, *after* Pearl submitted its final bid. Because Pearl submitted a final bid and application fee in the reasonable belief that it qualified, and was then disqualified by an intervening change in law that was beyond the project's control, Staff believes Pearl's application fee should be refunded in the interests of fairness and essential justice.[12] Accordingly, Staff recommends the Board modify the GSESP Launch Order to allow the currently non-refundable application fee to be refunded to a project when it becomes disqualified after submitting a final bid for reasons beyond its control.

Rate Impact Considerations

With electricity rates rising sharply it is vital to do everything possible to control and ideally reduce cost burdens placed on ratepayers. For that reason, the Board intends to fund Phase 1 of the GSESP using its existing Clean Energy Program ("CEP") budget, and potentially other available funding sources—without increasing Societal Benefits Charge ("SBC") rates. Using existing funding sources means there would be no gross rate increase due to Tranche 1, Phase 1 of the GSESP. Staff believes funding these incentives without SBC increases is feasible due to a combination of some leeway in the current CEP budget and the expected winding down of other CEP funding commitments in the next few years.

While Staff does not anticipate the need to raise the SBC to fund Phase 1 of the GSESP, Staff's Consultant calculated the average anticipated costs of Tranche 1 incentive payments that will be collected through current SBC rates. Based upon the estimated Present Value of Net Outflow of Costs (PVNOC), the average monthly costs for the awards being made by this Order are: $0.17 for electric residential customers; $1.39 for electric commercial customers; and $13.48 for electric industrial customers (expressed in 2025 dollars). Staff emphasizes these figures do not correspond to cost increases for ratepayers; they instead represent the average amount of current

[12] See Trap Rock Industries, Inc. v. Sagner, 133 N.J. Super. 99, 109 (App. Div. 1975) (noting that administrative agencies can modify prior decisions to serve the ends of essential justice).

SBC collections per ratepayer that will be allocated to funding GSESP Tranche 1 incentives. Staff has calculated that 8% of current SBC collections will be used to fund Tranche 1 incentives.

To determine the relative effectiveness of Tranche 1 incentives at reducing ratepayers' cost burden, Staff estimated the savings that Tranche 1 projects would likely provide to ratepayers compared to benefit of returning the Tranche 1 funding directly to ratepayers. To that end Staff conducted the analysis described in Appendix B, which compares incentive costs for Tranche 1 incentives awarded by this Order to modeled capacity cost savings produced by the resulting increase in the supply of capacity. The results indicate that in most scenarios capacity cost savings realized due to awarded Tranche 1 projects would exceed the cost of Tranche 1 incentives. For instance, in Staff's central scenario, the present value of capacity savings exceeded incentive costs by a ratio of 1.19 to 1.70, depending on the project in question.[13] Even in a sensitivity case in which the next three capacity auctions clear at an administratively determined price cap, such that there are no capacity savings in those years, expected capacity savings still exceed incentive costs. The analysis demonstrates that spending money on Tranche 1 incentives will likely provide greater ratepayer relief than returning that money directly to ratepayers.

Registration Requirements

Staff recommends requiring projects that receive an incentive award under the GSESP to submit a complete GSESP registration package with the GSESP Program Administrator prior to commencing construction on the facility. The GSESP Program Administrator should open the GSESP registration portal to new registrations by no later than 11:59:59 p.m. on January 29, 2026.

Staff recommends giving successful bidders 30 days following the date of this Order to register their awarded project with the Board. Each awarded project's registration package must include:

- A registration form;
- A description of the project, including type of proposed installation, installed capacity in MW, energy storage capacity in MWh, GIS coordinates, project address, and number of acres proposed for development;
- A contract between the primary installer or the third-party owner, as applicable, and the bidder or customer of record;
- A site plan signed and sealed by a licensed professional engineer, as defined in the pre-qualification section of this order, showing all proposed and installed GSESP-eligible facilities;
- A Milestone Reporting Form;
- For storage paired with grid supply solar, a description of the storage technology and project ID or confirmation of solicitation of paired solar project must be included; and
- A report detailing the estimated dates for the following project milestones:
    - Fully executed engineering, procurement and construction agreement;
    - A table that includes dates for the following:
        - Developer financial closing;

[13] The analysis also indicated that underlying reason why funding storage will provide significant net savings is because storage resources can reach commercial operation and alleviate tight capacity conditions much faster than traditional resources, as most of the capacity savings are realized in the first few years of operation before projects with longer lead times can be brought online.

- Commencement of energy storage system construction;
- Planned COD; and
- Guaranteed COD.

DISCUSSION AND FINDINGS

Energy storage plays an essential role in New Jersey's transition to clean energy, contributing to grid stability, decarbonization, and economic development. The Board anticipates the GSESP will boost the state's economy by lowering electricity costs, attracting investment in modern infrastructure, enhancing grid reliability, minimizing environmental impacts, improving public health, and generating new employment opportunities. As the cornerstone of the Board's strategy to fulfill the CEA's and P.L. 2025, c.136's mandates, Phase 1 of the GSESP will drive the deployment of at least 1,000 MW of energy storage by 2030.

In addition to supporting a thriving energy storage sector and fostering diverse job and industry growth, the Board remains committed to protecting New Jersey ratepayers by advancing these goals at the lowest possible cost. The GSESP will be funded through current SBC collections and other sources as available, and those funds should be utilized as efficiently as possible. The GSESP employs a competitive structure to ensure that incentive costs are kept to a minimum while still encouraging new private investment in energy storage facilities. These cost-minimizing design features, in combination with the capacity savings and other benefits of storage that put downward pressure on electricity prices, means the GSESP should ultimately reduce electricity costs for ratepayers.

After reviewing the record and Staff's recommendation, the Board **FINDS** that, as required by the GSESP Launch Order, each awarded project in the Tranche 1 of the GSESP has satisfied the Program's eligibility requirements and has qualified for Tranche 1 incentives.

The Board **FINDS** that Staff appropriately used a cost-per-unit metric, expressed as dollars per megawatt of Unforced Capacity ("UCAP") per year ($/MW of UCAP-year) for each project, along with adjustments for community benefits scoring, to determine recommended incentive awards.

The Board **FINDS** that reducing the cost of future energy storage incentives to ratepayers as the market matures is a critical policy goal of the GSESP, and that the GSESP Phase 1 incentive-level benchmarking justifies the reasonableness of the incentive levels in the first solicitation. As more storage is deployed, the Board will seek a reduction in incentive levels over time, with the goal of phasing out incentives once the market is established within the State.

The Board **CONCLUDES** that Staff recommendations would enable the Board to cost-effectively meet the Tranche 1 target of 350-750 MW and are in the best interest of the State and its ratepayers. The Board **HEREBY APPROVES** all recommendations made by Staff above and **APPROVES** the award of 355 MW of energy storage capacity under Tranche 1, Phase 1 of the GSESP.

The Board **HEREBY APPROVES** the Woods Landing Storage LLC project in Middlesex County, New Jersey, with an AC installed capacity of 200 MW, to receive an annual GSESP award of $75,000 per MW of installed capacity, for a period of 15 years. The Board **FINDS** this award reasonable based on a confidential analysis conducted by Staff and Staff's Consultant, as well as a Capacity Savings analysis. The Board further **ORDERS** that payments to this project under this GSESP incentive award shall be contingent upon compliance with the terms and conditions of this Order, as well as subject to the potential incentive deductions and revocations specified herein.

The Board **HEREBY APPROVES** the Two Rivers Energy Storage LLC project in Bergen County, New Jersey, with an AC installed capacity of 150 MW, to receive an annual GSESP award of $81,840 per MW of installed capacity, for a period of 15 years. The Board **FINDS** this award reasonable based on a confidential analysis conducted by Staff and Staff's Consultant, as well as a Capacity Savings analysis. The Board further **ORDERS** that payments to this project under this GSESP incentive award shall be contingent upon compliance with the terms and conditions of this Order, as well as subject to the potential incentive deductions and revocations specified herein.

The Board **HEREBY APPROVES** the North America Energy Storage Corp., project in Burlington County, New Jersey, with an AC installed capacity of 5 MW, to receive an annual GSESP award of $60,000 per MW of installed capacity, for a period of 15 years. The Board **FINDS** this award reasonable based on a confidential analysis conducted by Staff and Staff's Consultant, as well as a Capacity Savings analysis. The Board further **ORDERS** that payments to this project under this GSESP incentive award shall be contingent upon compliance with the terms and conditions of this Order, as well as subject to the potential incentive deductions and revocations specified herein.

The Board **DIRECTS** that incentive payments for each awarded project be made according to the payment schedule in Appendix A of this Order. In accordance with P.L. 2025, c.136,[14] these incentives are contingent upon payment of the non-refundable application fee of $200 per MW and a pre-development security of $0, as established by the GSESP Launch Order. The Board **FINDS** that all awarded projects have paid the required application fee.

The Board **HEREBY ORDERS** Staff or the GSESP Program Administrator to impose the following deductions or revoke the incentive under the following conditions:

1. If a recipient of a Tranche 1 incentive award misses their planned COD, there will be a deduction from the first annual incentive payment equal to the lesser of the entire first annual incentive payment or $1,000 per MW of the project's installed capacity for each calendar day of delay, beginning on the calendar day after the project's planned COD. However, to ensure compliance with P.L. 2025, c.136, a project that does not achieve commercial operation in the fiscal year in which its planned COD falls shall lose the entirety of its first annual incentive payment irrespective of the number of calendar days of delay.[15]
2. If a recipient of a Tranche 1 incentive award is available for dispatch for less than 7,900 hours in a given year, the annual incentive payment for the relevant year shall be proportionately reduced by an amount equal to the number of hours the project fell short of the 7,900-hour requirement divided by 7,900 hours.
3. If a recipient of a Tranche 1 incentive award fails to achieve commercial operation within 36 months of the guaranteed COD, the award shall be revoked. However, the Board may waive this penalty if the applicant demonstrates good cause for relief in writing.

[14] N.J.S.A. 48:3-121.3(e)(4)-(5).

[15] See N.J.S.A. 48:3-121.3(e)(2) (providing that the payment schedule for a project may not commence until it has achieved commercial operation).

If the project is granted an extension of the COD deadline by the Division Director, the Board **FURTHER ORDERS** that any deductions from the first-year incentive award shall be calculated using the date of the extended COD deadline rather than the originally planned COD. In the event that a COD deadline for an awarded project is extended to a subsequent fiscal year, the Board **ORDERS** that the payment dates specified in Attachment A for the relevant project shall be pushed back by one or more years such that the payment term commences in the fiscal year to which the COD deadline is extended. For example, if a COD deadline is extended from February 20, 2028, to July 20, 2028, the first payment date would become June 30, 2029, instead of June 30, 2028, and the last payment date would be June 30, 2043, instead of June 30, 2042.

The Board **HEREBY DIRECTS** recipients of Tranche 1 incentive awards to provide quarterly reports in writing to the Board, beginning at the end of the current fiscal quarter and continuing until the project achieves commercial operation. Quarterly reports shall include construction milestones achieved during that reporting period, milestones expected to be achieved during the next reporting period, any problems encountered and the resolution of those problems, or the system recipients plan for resolving those problems, permitting timelines, any project schedule impacts and any other information believed to be material to the development of the project.

The Board **HEREBY DIRECTS** system owners of Tranche 1 incentive award recipients to provide reports on system performance in writing to the Board or the Program Administrator, once the systems achieve commercial operation, on a monthly basis or other period of time as may be specified in future program rules. Specifically, during commercial operation, system owners should provide a report with key operational metrics, including number of hours the system experienced a forced outage and number of hours out of service due to a planned outage, within five (5) business days following the end of each reporting period.

The Board **DIRECTS** all Tranche 1 incentive award recipients to provide a written report to the Board one (1) year after the COD of the project that outlines the installation costs of the project. This shall include construction costs and any other costs the project may incur during construction and installation which are intended to be offset by the incentive payments.

The Board **DIRECTS** all Tranche 1 incentive award recipients to install meters and telemetering equipment to track energy exchange and report data. If a transmission-scale energy storage system receiving a fixed incentive award is co-located with a generation resource, the Board **DIRECTS** the system owner to install a revenue-quality meter or telemetering equipment that can separately track the electrical output (i.e., the amount of electricity generated or discharged) of each system and support periodic reporting.

The Board **DIRECTS** that system owners of Tranche 1 incentive award recipients notify the Board of any changes in ownership, development or operation, in writing, within 30 days. Specifically:

1. In the event of a change in system owner, the new system owner shall notify the Board of their individual and/or corporate name(s), tax identification number, address, contact telephone number, and the percentage of the energy storage system they own. The new system owner shall update any pre-development security as necessary.
2. In the event of a change in the project operator, either the system owner or the new project operator shall notify the Board of their individual and/or corporate name(s), tax identification number, address, and contact telephone number.
3. In the event of a material change in the project developer, including a change in a subcontractor, either the system owner or the new project developer shall notify the Board of their individual and/or corporate name(s), tax identification number, address, and contact telephone number.

The Board **DIRECTS** system owners of Tranche 1 incentive award recipients to provide annual performance metrics, in writing, to the Board, beginning at the end of the energy year following the date the system achieves commercial operation through the energy year of the final incentive award. Annual reports shall include:

1. Greenhouse gas emissions and emissions reductions related to peak, non-peak, and total MWh charged and discharged, as can be reasonably measured or estimated.
2. A list of each PJM market the energy storage resource participated in the past year available to storage, including energy, capacity and ancillary services, as well as the total revenues earned in each market and total revenues earned from any other source for the past energy year.
3. A list of all operating and maintenance cost items and the total amounts expended on each cost item for the past energy year.
4. If applicable, quantitative evidence using metrics tailored to the specific evidence claimed, demonstrating that community benefits claimed were realized to the extent feasible.

The Board anticipates that compliance with some of its reporting directives will require award recipients to submit confidential information, including but not necessarily limited to proprietary commercial or financial information, that is protected from public disclosure. The Board therefore **DIRECTS** award recipients that submit information to comply with this Order's reporting requirements that they believe is confidential to assert confidentiality claims in accordance with the procedures specified in N.J.A.C. 14:1-12.1 through N.J.A.C. 14:1-12.18.

The Board **DIRECTS** all GSESP award recipients to submit a complete registration package within 30 days of the effective date of this Board Order.

The Board **DIRECTS** all GSESP award recipients to submit estimated dates for the project milestones listed in the Order within 30 days of receiving notice of fixed incentive awards.

The Board **HEREBY DIRECTS** Staff to open a Docket specific to each of the award recipients in this Order.

The Board **ORDERS** that the provisions of the June 18, 2025, GSESP Launch Order shall be incorporated by reference into this Order as if completely set forth herein, to the extent that such provisions are consistent with and not altered or superseded by the actual text of this Order and/or P.L. 2025, c.136. The Board **DIRECTS** all awarded projects to comply with all applicable requirements of the June 18, 2025, GSESP Launch Order so incorporated by reference.

In the event of any conflict between this Order and P.L. 2025, c.136, the Board **AUTHORIZES** Staff and the Program Administrator to deviate from the requirements of any term in this Order that conflicts with P.L. 2025, c.136, but only to the extent necessary to ensure compliance with that law.

Finally, the Board agrees with Staff that the interests of fairness and essential justice support refunding Pearl's application fee. The Board **FINDS** that Pearl's project met the GSESP Launch Order's criteria and thus prequalified for Tranche 1. The Board **FURTHER FINDS** that Pearl then submitted a final application and paid the application fee under circumstances that made it reasonable to believe that it could receive an incentive award. It was only the intervening change in the law caused by the enactment of P.L. 2025, c.136 two (2) days later that disqualified it. Thus, pursuant to its inherent statutory authority to modify its prior Orders,[16] the Board **MODIFIES** the June 18, 2025, GSESP Launch Order to permit refunds of bid application fees when projects become disqualified after submitting their final bids for reasons beyond their control. The Board **FURTHER DIRECTS** Staff or the Program Administrator to refund Pearl's bid application fee.

The effective date of this Order is March 4, 2026.

DATED: March 4, 2026

BOARD OF PUBLIC UTILITIES
BY:

CHRISTINE GUHL-SADOVY
PRESIDENT

DR. ZENON CHRISTODOULOU
COMMISSIONER

MICHAEL BANGE
COMMISSIONER

EMMA REBHORN
COMMISSIONER

JOSEPH COVIELLO
COMMISSIONER

ATTEST:

SHERRI L. LEWIS
BOARD SECRETARY

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities.

[16] See N.J.S.A. 48:2-40(e) ("The board at any time may . . . modify an order made by it."); Trap Rock Industries, 133 N.J. Super. at 109 (noting that administrative agencies have the inherent power to modify prior decisions to serve the ends of essential justice).

IN THE MATTER OF THE GARDEN STATE ENERGY STORAGE PROGRAM

DOCKET NO. QO22080540

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APPENDIX A

ANNUAL GSESP INCENTIVE PAYMENT SCHEDULE

Woods Landing Storage LLC		Awarded Capacity: 200 MW Planned COD: February 20, 2028	
Energy Year (June 1 to May 31)	Incentive/MW	Annual Allotment	Payment Date
2028	$75,000	$15,000,000	June 30, 2028
2029	$75,000	$15,000,000	June 30, 2029
2030	$75,000	$15,000,000	June 30, 2030
2031	$75,000	$15,000,000	June 30, 2031
2032	$75,000	$15,000,000	June 30, 2032
2033	$75,000	$15,000,000	June 30, 2033
2034	$75,000	$15,000,000	June 30, 2034
2035	$75,000	$15,000,000	June 30, 2035
2036	$75,000	$15,000,000	June 30, 2036
2037	$75,000	$15,000,000	June 30, 2037
2038	$75,000	$15,000,000	June 30, 2038
2039	$75,000	$15,000,000	June 30, 2039
2040	$75,000	$15,000,000	June 30, 2040
2041	$75,000	$15,000,000	June 30, 2041
2042	$75,000	$15,000,000	June 30, 2042

Two Rivers Storage LLC		Awarded Capacity: 150 MW Planned COD: February 20, 2028	
Energy Year (June 1 to May 31)	Incentive/MW	Annual Allotment	Payment Date
2028	$81,840	$12,276,000	June 30, 2028
2029	$81,840	$12,276,000	June 30, 2029
2030	$81,840	$12,276,000	June 30, 2030
2031	$81,840	$12,276,000	June 30, 2031
2032	$81,840	$12,276,000	June 30, 2032
2033	$81,840	$12,276,000	June 30, 2033
2034	$81,840	$12,276,000	June 30, 2034
2035	$81,840	$12,276,000	June 30, 2035
2036	$81,840	$12,276,000	June 30, 2036
2037	$81,840	$12,276,000	June 30, 2037
2038	$81,840	$12,276,000	June 30, 2038
2039	$81,840	$12,276,000	June 30, 2039

2040	$81,840	$12,276,000	June 30, 2040
2041	$81,840	$12,276,000	June 30, 2041
2042	$81,840	$12,276,000	June 30, 2042

North America Energy Storage Corp.		**Awarded Capacity: 5 MW**	
		Planned COD: June 30, 2027	
Energy Year (June 1 to May 31)	**Incentive/MW**	**Annual Allotment**	**Payment Date**
2028	$60,000	$300,000	June 30, 2027
2029	$60,000	$300,000	June 30, 2028
2030	$60,000	$300,000	June 30, 2029
2031	$60,000	$300,000	June 30, 2030
2032	$60,000	$300,000	June 30, 2031
2033	$60,000	$300,000	June 30, 2032
2034	$60,000	$300,000	June 30, 2033
2035	$60,000	$300,000	June 30, 2034
2036	$60,000	$300,000	June 30, 2035
2037	$60,000	$300,000	June 30, 2036
2038	$60,000	$300,000	June 30, 2037
2039	$60,000	$300,000	June 30, 2038
2041	$60,000	$300,000	June 30, 2039
2041	$60,000	$300,000	June 30, 2040
2042	$60,000	$300,000	June 30, 2041

Appendix B: GARDEN STATE ENERGY STORAGE PROGRAM – ANALYSIS OF POTENTIAL CAPACITY MARKET NET SAVINGS FOR PHASE 1, TRANCHE 1 AWARDED PROJECTS

I. Introduction

The Garden State Energy Storage Program (GSESP) is designed to provide incentives for the installation of eligible energy storage systems. Phase 1, Tranche 1 of the program establishes incentives for transmission-scale energy storage systems with a capacity of 5 MW or greater.

Transmission-scale energy storage systems are considered a capacity resource by the Pennsylvania-Jersey-Maryland Interconnection (PJM) and can participate in PJM's wholesale capacity market. Recently, capacity shortages have contributed to an increase in the clearing price of the PJM Base Residual Auction (BRA) resulting in an increase in electricity prices for New Jersey ratepayers. Energy storage is one of the few resources that can provide new dispatchable capacity in the near-term,[1] thereby improving system reliability and hopefully lowering the clearing price in upcoming capacity auctions.[2] As a result, incentivizing energy storage systems has the potential to decrease electricity costs for New Jersey ratepayers.

This appendix describes the results and key assumptions underlying an analysis of the potential capacity market savings that may result from Phase 1, Tranche 1 of the GSESP. The analysis focuses solely on the potential capacity market savings from the awarded projects in Phase 1, Tranche 1. It does not consider other benefits to New Jersey from these projects including increased energy resilience, economic development, and avoided environmental costs. The analysis also does not account for community benefits of the storage projects, such as jobs creation, benefits to overburdened communities, and Brownfield redevelopments, which are part of the evaluation criteria for the GSESP solicitation. These other benefits are highlighted in the main body of the GSESP award order but are outside the scope of this analysis.

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[1] Storage resources account for one-third of generation in the PJM interconnection queue and have shorter development lead times compared to other resources. For example, new gas-fired power plants face significant order backlogs for necessary equipment, pushing development timelines to seven to eight years. Kevin Clark, Long Lead Times are Dooming Some Proposed Gas Plant Projects, Power Engineering, (Feb. 20, 2025), https://www.power-eng.com/gas/turbines/long-lead-times-are-dooming-some-proposed-gas-plant-projects/. Likewise, building additional nuclear capacity is expected to take at least seven years, and likely substantially longer, depending on various factors. See Global Nuclear Industry Performance, (World Nuclear Assoc., https://world-nuclear.org/our-association/publications/world-nuclear-performance-report/global-nuclear-industry-performance?utm_source=chatgpt.com (last updated Aug. 20, 2024).

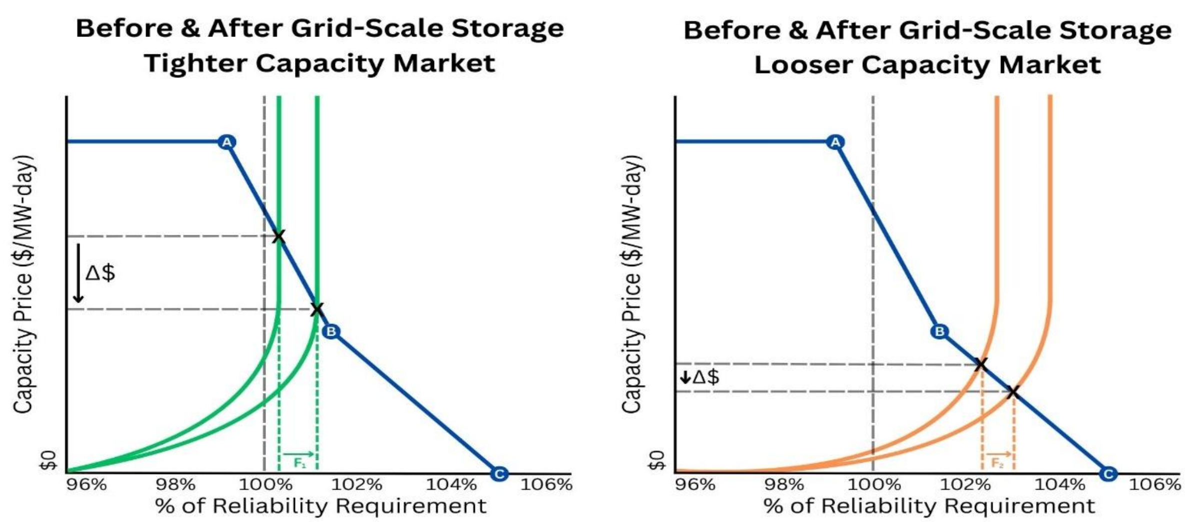
[2] Staff notes that the current, historically unprecedented rate of load growth driven mainly by data centers creates a risk that the PJM capacity market may clear at less than 99% of its reliability requirement one or more times in the next few years. The PJM capacity market is designed to reach the same maximum price whenever it clears at or below 99% of the reliability requirement. Consequently, if the market would clear below 99% both with and without the addition of GSESP projects in certain years, those projects would not provide any capacity savings during those years. However, in this scenario additional capacity would be needed as soon as possible for reliability reasons, and the GSESP would still provide value to ratepayers by helping to lower the risk of load shed events. The additional capacity provided by the GSESP would also reduce the amount of additional capacity needed to resolve the shortage, likely reducing the amount of time the capacity market clears at its maximum price. GSESP projects would also help directly lower capacity prices once PJM again has enough capacity to meet at least 99% of its reliability requirement.

II. Background on the Capacity Market

PJM's capacity market ensures long-term grid reliability by securing power supply resources needed to meet predicted energy demand in the future.[3] The BRA is meant to be an annual auction conducted by PJM to secure electric capacity for a delivery year three years in the future, though auction delays in recent years have altered the schedule. Capacity providers, such as energy storage systems, bid the amount of capacity they can offer and the price they are willing to accept into the BRA. The BRA results in a clearing price across the PJM region, with some variability in Locational Deliverability Areas (LDAs) to account for transmission constraints that limit the ability of some parts of the grid to import capacity from other areas.

The demand for capacity in the market is administratively determined by PJM and modeled as the Variable Resource Requirement (VRR) curve. The shape of the VRR curve is based upon the reliability requirement which represents the amount of capacity needed to serve load during peak demand and other stressed system conditions with an adequate reserve margin. PJM calculates the reliability requirement by considering forecasts for peak loads, the periods of greatest reliability risk, and the ability of the expected generation mix to serve load during those periods. The capacity supply curve includes all capacity providers bidding into the auction, based upon their aggregate accredited unforced capacity (UCAP). Figure 1 provides illustrative insight into the behaviors of the supply and demand curves, where fluctuations in pricing within the PJM capacity market are highlighted by the changing intersections (i.e., the clearing price) from before and after transmission-scale storage enters the market.

Figure 1 – The capacity market shifts are a function of the capacity pricing and percent (%) reliability required to meet peak capacity demand.



The addition of energy storage systems to aggregate capacity in PJM will likely shift the supply curve to the right (F_1 and F_2) resulting in a lower market clearing price (Δ$). The magnitude of the shift depends upon the degree to which supply is constrained. If supply is tightly constrained, as occurred in the 2025/2026 delivery year BRA, the clearing price will fall between points A and B on the demand curve (assuming PJM is not critically short capacity such that the

[3] An Introductory Guide for Participation in PJM Processes, Fed. Energy Reg. Comm'n, https://www.ferc.gov/introductory-guide-participation-pjm-processes (last updated April 11, 2025),

market clears to the left of point A at the maximum possible price). As more supply comes online in response to market signals, the clearing price may fall between points B and C, resulting in a looser capacity market and reducing potential savings.

The following analysis attempts to quantify the potential capacity market savings resulting from energy storage systems bidding additional capacity into future BRAs. This analysis focuses solely on the addition of transmission-scale storage projects awarded in Phase 1, Tranche 1 of the GSESP and their potential impact on the capacity market.

III. Assumptions

- **Capacity Interconnection Rights for Transmission-scale Energy Storage Resources**
  - Capacity Interconnection Rights (CIRs) represent the amount of generation output or storage discharge from a capacity resource that is deliverable to load under all system conditions. The number of CIRs limits a capacity resource's accredited unforced capacity (UCAP) value.
  - This analysis estimates the UCAP value for each project based upon the number of CIRs held. Under PJM's current rules, a storage project's effective nameplate capacity used for capacity accreditation is limited to the number of CIRs it holds.

- **Effective Nameplate Capacity**
  - UCAP is calculated from Effective Nameplate Capacity. Effective Nameplate Capacity may not exceed CIRs, but it may be less than CIRs. Effective Nameplate Capacity may not be more than the amount of output in megawatts that the resource can continuously put to the grid for the number of hours of its ELCC class (e.g. 4, 6, 8, or 10 hours). Storage capacity (in MWh) degrades over time in relationship to patterns of operation. Storage projects typically maintain their effective nameplate capacity through some combination of "overbuilding" (initially building excess storage capacity so that the minimum rating can be maintained in spite of some degradation) and "augmentation" (periodically investing over the life of the project to replace components to offset degradation losses). Two of the awarded projects indicated plans to use this approach to maintain 100% of effective nameplate capacity over the 15-year incentive period. One of the projects estimated that its effective nameplate capacity will degrade about 20% over the same period. Estimated capacity savings account for this degradation as a reduction in accredited capacity assumed to clear in the BRAs over time.

- **Effective Load Carrying Capacity (ELCC) Rating**
  - The ELCC metric quantifies a resource's ability to contribute to grid reliability. The value is estimated for each resource type and is used to determine the accredited UCAP eligible to bid into the BRA. Specifically, the amount of UCAP a resource can bid into the BRA is equal to its ELCC class rating multiplied by its effective nameplate capacity, subject to certain unit specific adjustments. Importantly, PJM allows storage resources to choose their ELCC class based on how long they can sustain output at their effective nameplate capacity. The values utilized in the analysis for each delivery year are displayed in Table 1 and 2, below.

Table 1 – ELCC Class Rating Projections (4 hour)

Projected Storage ELCC for 2029/2030 Delivery Year	51%
Projected Storage ELCC for 2030/2031 Delivery Year	49%
Projected Storage ELCC for 2031/2032 Delivery Year	42%
Projected Storage ELCC for 2032/2033 Delivery Year	42%
Projected Storage ELCC for 2033/2034 Delivery Year	40%
Projected Storage ELCC for 2034/2035 Delivery Year	38%
Projected Storage ELCC for 2035/2036 Delivery Year	34%
Projected Storage ELCC for 2036/2037 Delivery Year	30%
Projected Storage ELCC for 2037/2038 Delivery Year	26%
Projected Storage ELCC for 2038/2039 Delivery Year	22%
Projected Storage ELCC for 2039/2040 Delivery Year	18%
Projected Storage ELCC for 2040/2041 Delivery Year	14%
Projected Storage ELCC for 2041/2042 Delivery Year	10%
Projected Storage ELCC for 2042/2043 Delivery Year	10%
Projected Storage ELCC for 2043/2044 Delivery Year	10%
Projected Storage ELCC for 2044/2045 Delivery Year	10%

Table 2 – ELCC Class Rating Projections (10 Hour)

Projected Storage ELCC for 2029/2030 Delivery Year	72%
Projected Storage ELCC for 2030/2031 Delivery Year	73%
Projected Storage ELCC for 2031/2032 Delivery Year	68%
Projected Storage ELCC for 2032/2033 Delivery Year	69%
Projected Storage ELCC for 2033/2034 Delivery Year	70%
Projected Storage ELCC for 2034/2035 Delivery Year	70%
Projected Storage ELCC for 2035/2036 Delivery Year	70%
Projected Storage ELCC for 2036/2037 Delivery Year	70%
Projected Storage ELCC for 2037/2038 Delivery Year	70%
Projected Storage ELCC for 2038/2039 Delivery Year	70%
Projected Storage ELCC for 2039/2040 Delivery Year	70%
Projected Storage ELCC for 2040/2041 Delivery Year	70%
Projected Storage ELCC for 2041/2042 Delivery Year	70%
Projected Storage ELCC for 2042/2043 Delivery Year	70%
Projected Storage ELCC for 2043/2044 Delivery Year	70%
Projected Storage ELCC for 2044/2045 Delivery Year	70%

- **Load Forecast**
  - PJM's 2025 load forecast is utilized to estimate peak load over the period.

- **New Jersey Zones' Capacity Purchase Obligations**
  - Capacity Purchase Obligations are based upon the 2025/2026 BRA values. A 0.86% annual growth rate is applied to the Capacity Purchase Obligations based upon the weighted average of projected summer load growth in PJM's 2025 load

forecast for ACE, JCP&L, PSE&G, and RECO. This assumption likely errs on the side of underestimating the growth in Capacity Purchase Obligations for New Jersey zones, as winter peak load is growing at a much faster rate and winter risks are increasingly driving capacity needs. Underestimating future Capacity Purchase Obligations in turn underestimates savings from lower future capacity prices, making this a conservative assumption.

- **GSESP Energy Storage Capacity Deployment**
  - The analysis utilizes the estimated accredited UCAP capacity of the awarded projects based on effective nameplate capacity times ELCC class rating. The capacity market is assumed to be constrained through delivery year 2031/2032 then less constrained thereafter. In capacity constrained periods, the ratio of the change in cleared capacity to the change in offered UCAP is assumed to be 1:1. In less constrained periods, this ratio is assumed to be 0.5:1.

- **Discount Rate**
  - A 7.0% discount rate is assumed for net present value calculations.

- **Reliability Requirement**
  - Based upon PJM's projections for peak load growth, the Reliability Requirement is derived by multiplying the estimated peak load for a given delivery year by the Forward Pool Requirement (FPR) value for the 2026/2027 delivery year and subtracting the capacity needs met outside the capacity market.

- **VRR Curve**
  - This analysis is informed by the VRR parameter recommendations in Brattle's Sixth Quadrennial Review report to PJM.[4] The report provides recommendations for an updated methodology to determine the VRR Curve, including the adoption of a Marginal Reliability Impact (MRI) VRR Curve with prices reflective of incremental reliability value. Additionally, the report advocates for adopting a "Reference Price" to replace the Net Cost of New Entry (CONE) parameter and a price cap in the range of 1.5-1.75 x Reference Price. A linear approximation of the "Curve 2" version of MRI VRR Curve is the basis for the BRA modeling for the results presented below.[5]

IV. Methodology

The following analysis estimates the total net capacity savings, defined as gross capacity savings from GSESP transmission-scale storage less GSESP transmission-scale incentive costs from additional energy storage resources in the capacity auctions for delivery years 2028/2029 through 2045/2046. It does so by comparing the estimated cost of capacity with and without additional energy storage resources incentivized by GSESP.

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[4] See Kathleen Spees et al., the Brattle Grp., Sixth Review of PJM's RPM VRR Curve Parameters for Planning Years 2028/29 through 2031/32 at 6-12 (2025), https://www.brattle.com/wp-content/uploads/2025/04/Sixth-Review-of-PJMs-Variable-Resource-Requirement-Curve.pdf.

[5] Id. at 6, fig.2.

Total Capacity Savings (CS) for the GSESP is described as a total CS throughout the lifetime of the program (*n*=17-years), including the Net Present Value NPV_{CS}, with a discount rate *r*=7.0%, defined as:

$$NPV_{CS} = \sum_{t=0}^{n} \frac{CS}{1 + r^n}$$

Total Transmission-Scale Incentive Costs (TIC) for GSESP is described as a total TIC throughout the lifetime of the program (*n*=17-years), including the Net Present Value NPV_{TIC}, with a discount rate *r*=7.0%, defined as:

$$NPV_{TIC} = \sum_{t=0}^{n} \frac{TIC}{1 + r^n}$$

Total Transmission-Scale Net Benefit (TNB) for GSESP, is described as a function of $TNB = CS - TIC$ throughout the lifetime of the program *n*=17-years, including the Net Present Value NPV_{TNB}, with a discount rate *r*=7.0%, defined as:

$$NPV_{TNB} = \sum_{t=0}^{n} \frac{TNB}{1 + r^n}$$

V. Sensitivity Analysis

Modeling capacity benefits requires assumptions about uncertain future variables. Staff performed a sensitivity analysis to test how alternative assumptions about a few key variables impact estimated capacity savings. For context, in April 2025, FERC approved the implementation of a price collar on the next two BRAs for 2026/2027 and 2027/2028. The price collars were developed due to fears from consumers that short supply would yield unduly high clearing prices even as other barriers (including shorter lead times for the auctions and interconnection backlogs) would prevent the price signals (no matter how high) from enticing new capacity entry. In fact, both auctions did clear at the FERC-approved price cap, and would have cleared at higher prices had the cap not been in place.

The 2026/2027 and 2027/2028 price collars were temporary, and there is currently no such price collar imposed on future auctions. However, it is possible that FERC will approve similar measures in future BRAs as well. Even under the standard market design, there is an effective price cap when cleared supply falls below 99% of the reliability requirement. To the left of this point, the VRR curve is flat (see Figure 1 above) and marginal changes in cleared supply have no impact on clearing price.

The primary capacity savings analysis assumes that additional qualifying capacity offered into the capacity market will reduce the clearing price. If an administrative price cap is binding, marginal changes in offered capacity will have no effect on the clearing price. Staff prepared a sensitivity case that assumed an administrative price cap binds (with or without GSESP program storage projects entering the market) through the 2030/2031 BRA. Since this represents a particularly supply-constrained future, this case also assumes that the BRA remains highly constrained (i.e., clears between points A and B on the VRR curve) through 2033/2034 and is less constrained thereafter. In capacity constrained periods, the ratio of the change in cleared capacity to the change in offered UCAP is assumed to be 1:1. In less constrained periods, this ratio is assumed to be 0.5:1.

VI. Awarded Projects

This analysis reviewed the three projects awarded in Phase 1, Tranche 1 of the GSESP. The awarded projects along with relevant metrics for incentive level and performance are listed below in Table 3.

Table 3 – Awarded Projects and Requested Incentive Levels

Project Entity	Bid Incentive Requested ($/MW-year)	AC Nameplate Capacity (MW)	Energy Storage Capacity (MWh)	Capacity Interconnection Rights (CIRs)	Duration (Hour)
North America Energy Storage Corp.	$60,000	5	30.09	2	15[6]
Woods Landing Storage LLC	$75,000	200	800.00	200	4
Two Rivers Energy Storage LLC	$81,840	150	600.00	150	4

VII. Results

Estimated Total Net Benefit (TNB) in capacity savings for each project in Staff's primary "Base" analysis is summarized in Table 4 below.

[6] As PJM's longest duration storage ELCC class is 10 hours, Staff modeled this project as a 10-hour resource. Staff's analysis thus may err on the side of conservatively underestimating the capacity value of this particular project, as PJM's capacity accreditation process accounts for unit-specific factors in addition to a project's ELCC class.

Table 4 – Results for the Net Present Value of the Total Net Benefit (TNB) across Awarded Projects – Base Analysis

Project Entity	Capacity Savings (NPV 2027$)	Incentive Cost (NPV 2027$)	Net Benefit (NPV 2027$)	Benefit/Cost Ratio
Woods Landing Storage LLC	$232,919,857	($136,618,710)	$96,301,147	1.70
Two Rivers Energy Storage LLC	$184,441,346	($111,808,752)	$72,632,593	1.65
North America Energy Storage Corp.	$3,246,622	($2,732,374)	$514,248	1.19
Total	**$420,607,825**	**($251,159,837)**	**$169,447,988**	**1.67**

The present value in 2027 of the TNB in capacity savings is positive across the three awarded projects, even after accounting for projected degradation in effective nameplate capacity for one project. The present value of projected total net savings to ratepayers is $169,447,988, after subtracting the cost of the incentives. The present value of projected gross savings to ratepayers is $420,607,825. The ratio of gross capacity savings to gross incentive cost is 1.67.

Table 5 – Results for the Net Present Value of the Total Net Benefit (TNB) across Awarded Projects – Sensitivity Analysis

Project Entity	Capacity Savings (NPV 2027$)	Incentive Cost (NPV 2027$)	Net Benefit (NPV 2027$)	Benefit/Cost Ratio
Woods Landing Storage LLC	$181,808,017	($136,618,710)	$45,189,307	1.33
Two Rivers Energy Storage LLC	$148,831,307	($111,808,752)	$37,022,555	1.33
North America Energy Storage Corp.	$2,614,619	($2,732,374)	($117,755)	0.96
Total	**$333,253,943**	**($251,159,837)**	**$82,094,107**	**1.33**

The present value of the TNB is positive even in our sensitivity case with price cap constraints limiting capacity savings to zero in the first two BRAs with GSESP projects clearing. The present value of projected total net savings to ratepayers is $82,094,107, after subtracting the cost of the incentives. The present value of projected gross savings to ratepayers in this sensitivity analysis is $333,253,943.

These results indicate that the potential additional capacity supply provided by energy storage systems would likely provide capacity market savings to New Jersey ratepayers that exceed the cost of GSESP incentives. Note that the TNB is measured against a counterfactual scenario in which the money that would be spent on the GSESP is instead allocated to direct ratepayer relief, not a scenario in which the overall Clean Energy Program budget is held constant. A positive TNB thus indicates that funding the GSESP transmission-scale incentive will ultimately save ratepayers more money than simply reducing societal benefits charge collections by the same amount.

VIII. Conclusion

Energy storage systems provide valuable capacity resources to meet peak load and increase grid reliability.[7] By incentivizing additional energy storage capacity to enter the market in the near-term, the GSESP has the potential to lower ratepayers' costs by reducing the clearing price in upcoming capacity market auctions.

If the capacity market remains constrained, then the amount of potential savings will increase provided the market does not clear at the price cap. Given the supply constraints for new capacity resources, such as natural gas and nuclear, it is likely that the capacity supply will remain constrained into the next decade.[8] Based upon this analysis, even if the capacity constraints are alleviated by the end of 2031 and do not materialize again for the next fifteen years, additional energy storage capacity still provides net savings to New Jersey ratepayers. Similarly, this analysis also indicates that even if the market clears critically short and at an administrative price cap through the end of the current decade, capacity savings in the 2030s and onwards will exceed incentive costs.

[7] N.J. Bd. of Pub. Utils. et al., 2019 New Jersey Energy Master Plan: Pathway to 2050 at 127 (2020), https://nj.gov/bpu/pdf/publicnotice/NJBPU_EMP.pdf.

[8] Advait Arun, The Natural Gas Turbine Crisis, Heatmap (Feb. 26, 2025), https://heatmap.news/ideas/natural-gas-turbine-crisis; Mitchel Beer, Turbine Shortage Could Crimp Canadian Utilities' Plans to Scale Up Gas, The EnergyMix (Mar. 27, 2025), https://www.theenergymix.com/turbine-shortage-could-crimp-canadian-utilities-plans-to-scale-up-gas/.