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December 22, 2025

**Submitted Electronically**

TO: Hon. Michelle L. Phillips, Secretary  
New York State Public Service Commission  
Empire State Plaza, Agency Building 3  
Albany, New York 12223-1350

**RE: Case 18-E-0130 – In the Matter of Energy Storage Deployment Program**  
Comments on the New York State Energy Research and Development Authority (NYSERDA)  
filing regarding *Alternative approaches to 12+ hour energy storage in bulk program*  
*procurements*

Dear Secretary Phillips,

The New York Battery and Energy Storage Technology Consortium (NY-BEST) is pleased to submit comments in response to NYSERDA's proposed *Alternative approaches to 12+ hour energy storage in bulk program procurements*, filed on September 30, 2025.

We greatly appreciate the Commission's consideration of our comments. If you have any questions about these comments or need additional information, please contact us at 518-694-8474 or by email at info@ny-best.org. Thank you.

Sincerely,

A handwritten signature in black ink that reads "William P. Acker". The signature is written in a cursive, slightly slanted style.

Dr. William Acker  
Executive Director, NY-BEST

## ABOUT NY-BEST

NY-BEST is a not-for-profit industry trade association with a mission to grow the energy storage industry in New York. We act as a voice of the energy storage industry for more than 180 member organizations on matters related to advanced batteries and energy storage technologies. Our membership includes global corporations, start-ups, project developers, leading research institutions and universities, and numerous companies involved in the electricity and transportation sectors.<sup>1</sup>

NY-BEST and our members have been actively engaged in the implementation of the Climate Leadership and Community Protection Act (CLCPA), including through the development and implementation of the State's Energy Storage Roadmaps. NY-BEST is committed to helping meet New York State's goals to deploy 6 GW of energy storage on the electric grid by 2030, to achieve 100% clean electricity by 2040, and to direct 40% of the overall benefits of clean energy investments to Disadvantaged Communities.

## BACKGROUND

On March 21, 2025, the New York Public Service Commission ("the Commission") issued the *Order Approving Bulk Energy Storage Program with Modifications* ("March 2025 Order"), which included a directive to NYSERDA to "propose an alternative methodology for estimating expected market revenue for 12+ hour resources" for use in the 2026 Bulk Solicitation. On September 30, NYSERDA filed *Alternative approaches to 12+ hour energy storage in bulk program procurements* ("NYSERDA proposal") which presents three options for modifying the Index Storage Credit (ISC) formula for 12+ hour resources, and raises broader questions about an alternative procurement and incentive approach to interday and multiday resources.

## COMMENTS

As noted in NYSERDA's Technoeconomic Analysis,<sup>2</sup> Long-Duration Energy Storage (LDES) provides significant value to the grid, including energy shifting and peak shaving, capacity supply, balancing and reserve services, extended-duration backup power, and transmission and distribution infrastructure deferral. Nationally, the U.S. Department of Energy's *Pathways to Commercial Liftoff: Long Duration Energy Storage report (DOE Liftoff Study)* estimates the grid may require up to 460 GW of LDES by 2050, with the potential to save \$10–\$20 billion in annual system costs.<sup>3</sup> In New

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<sup>1</sup> NY-BEST comments represent the interests of the organization as a whole and not the views of any single member. Our members have diverse interests and the organization's views are intended to be reflective of the energy storage industry collectively.

<sup>2</sup> New York State Energy Research and Development Authority (NYSERDA). *Zero by 40 Technoeconomic Assessment*, September 2025. Accessed [here](#).

<sup>3</sup> U.S. Department of Energy. *Pathways to Commercial Liftoff: Long-Duration Energy Storage*, March 2023. Accessed [here](#).

York, modeling by NY-BEST member Form Energy suggests that **deploying up to 35 GW of LDES by 2040** could save **\$8.7 billion annually**, while ensuring a cleaner and more resilient grid.<sup>4</sup>

Many LDES technologies are already mature and ready for deployment, and as the *DOE Liftoff Study* makes clear, a range of emerging technologies will also become available at increasing scale in the coming years. In New York, NYSERDA has recently awarded demonstration funding to three new LDES technologies of 10-100 hour duration that will soon be deployed.<sup>5</sup>

NYSERDA is currently procuring at least 600 MW of 8+ hour LDES by 2030 as part of their Bulk Storage Program. While we applaud this critical first step, NY-BEST reiterates that this falls far short of the scale of the need. The New York Independent System Operator (NYISO) has repeatedly emphasized the need for clean-firm resources like LDES to ensure grid reliability as demand increases and as we transition away from fossil fuels. Modeling conducted for the Climate Action Council Scoping Plan, the NYISO System and Resource Outlook, and the New York State Energy Plan all indicate we'll likely need **more than 20 GW of clean-firm capacity by 2040** to keep our grid reliable as we replace our fossil fleet. LDES will serve a critical portion of that need.

To ensure we stay on track to long term deployment goals, we recommend the Commission:

- I. Adopt Option 1 for the upcoming 2026 and 2027 Bulk Storage procurements
- II. Launch a new 3 GW procurement for LDES and Multiday storage, separate from the current Bulk Storage program
- III. Establish Clean-Firm capacity targets and develop a Roadmap to achieve them

These recommendations are further detailed below.

## **I. Adopt Option 1 for the upcoming 2026 and 2027 Bulk Storage procurements**

The NYSERDA proposal lays out the following options for the procurement methodology for 12+hr resources bidding into the Bulk Storage solicitation:

### **1. Weekly and Monthly REAP:**

- a. *Approach:* For resources with 12-24hr duration, the REAP would be calculated over a weekly timeframe (e.g. the  $x$  top and bottom priced hours in the *week*, where  $x$ = resource duration, and excluding hourly pairs where arbitrage would be uneconomic). For resources with >24hr duration, the REAP would be calculated over a monthly timeframe (e.g. the  $x$  top and bottom priced hours in the *month*, where  $x$ =

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<sup>4</sup> Form Energy. *Modeling Multi-Day Energy Storage in New York*, 2023. Accessed [here](#).

<sup>5</sup> NYSERDA News. *Nearly \$15 Million Awarded to Four Demonstration Projects To Advance Long Energy Duration Energy Storage Technology Solutions*, August 2023. Accessed [here](#).

resource duration, and excluding hourly pairs where arbitrage would be uneconomic).

- b. *Result:* NYSERDA modeling indicates Option 1 results in lower estimated arbitrage revenue for 12+hr resources than using daily TB8 approach, but it may still overstate arbitrage revenue compared to what a resource could realistically capture. Nevertheless, Option 1 is preferred by NYSERDA due to its optimal “accuracy-simplicity balance.”

## **2. Weighted-average, Effective-Duration:**

- a. *Approach:* Assuming longer-duration resources may emulate those of shorter-duration systems to capture peaks, this approach would calculate separate REAPs for each effective duration, and use a weighted average as the final REAP.
- b. *Result:* NYSERDA modeling suggests Option 2 would result in a lower REAP overall than Option 1. While NYSERDA notes Option 2 is incrementally more accurate than Option 1, it is not preferred due to the considerable added complexity for bidding and evaluation.

## **3. Capacity-Only Approach**

- a. *Approach:* Eliminate the REAP, basing the Reference Price for 12+hr resources on Reference Capacity Price (RCP) alone.
- b. *Result:* NYSERDA indicates that Option 3 creates competitiveness issues, particularly in comparing Strike Prices for an 8hr resource (which would be “underperforming” its REAP) and a 12hr resource (which would be “overperforming” its REAP).

### **NY-BEST supports NYSERDA’s recommendation to adopt Option 1 for 12+hr resources in the upcoming bulk solicitations, for the following reasons:**

1. Option 1 establishes the need to assess resources of diverse durations differently. Energy storage resources behave differently depending on their duration, and should be separately procured and valued. NY-BEST thus supports the concept behind Option 1, which would institute a daily REAP (TB8) for 8-12 hour resources, a weekly REAP for 12-24hr resources, and a monthly REAP for 24+hr resources. In the near term, Option 1 provides the best pathway to approximating revenue while recognizing duration-based distinctions in behavior; thus, for the 2026 and 2027 8+hr procurements, NY-BEST recommends adopting Option 1. However, in the long run, we urge the Commission and NYSERDA to establish a separate program that creates distinct procurement buckets for long duration (10-24hrs) and multiday (>24hrs) storage resources, as described in Sections 2 and 3 of these comments below.
2. Option 2 would be difficult to standardize across resource classes. While this Option represents a solid attempt to more accurately anticipate energy arbitrage behavior and associated revenue for longer duration resources, it is not clear from the NYSERDA proposal how “effective duration” and the respective weightings would be determined for each

resource type. It seems this would be exceedingly difficult to standardize, particularly as 8hr resources may frequently behave as a shorter-duration resource, while multiday resources are unlikely to ever behave as shorter-duration resources. Option 2 leaves significant discretion to assign effective duration weightings to each resource, which reduces bidding transparency and could result in unanticipated competitiveness consequences. Therefore, NY-BEST recommends the Commission not adopt Option 2.

3. Option 3 creates competitiveness concerns. NY-BEST strongly considered Option 3 as a potential preferred solution. Notably, the REAP was designed to estimate market revenue for short-duration energy storage resources that typically perform daily arbitrage as a primary source of revenue, and to provide those resources with a reasonable hedge to balance market volatility. However, for LDES resources 12 hours or greater (which are primarily capacity-providing resources, but with the ability to perform energy arbitrage over different timescales rather than solely within a day), it is exceedingly difficult to establish a standardized methodology that accurately approximates market revenue for all resources. For this reason, one could argue eliminating the hedge on arbitrage is preferable to establishing a highly inaccurate one. However, in a procurement that allows 8hr resources with a REAP to compete against 12+hr resources without a REAP, significant competitiveness challenges could arise. For example, the Reference Price for an 8hr resource would include REAP and therefore may overestimate revenue, causing the resource to need to increase its Strike Price; the Reference Price for a 12hr resource would exclude REAP and therefore may underestimate revenue, allowing the resource to reduce its Strike Price. This would make it challenging for NYSERDA to fairly compare Strike Prices between the two resources in the same 8+hr procurement category. While eliminating the REAP for all resources over 8hrs could help address competitiveness challenges between resources of different durations in the upcoming procurement, this is not a viable solution as most 8hr resources rely on the arbitrage hedge for project financing, and some 12hr resources may also rely on energy arbitrage as a key value stream. Therefore, NY-BEST recommends the Commission not adopt Option 3 for the upcoming 2026 and 2027 8+hr procurements. However, NY-BEST encourages the Commission to consider Option 3 for future multiday duration procurements, while instituting a mechanism that more fairly considers REAP for future 10-24hr procurements, subject to additional stakeholder input.

## **II. Launch a new 3 GW procurement for LDES and Multiday storage, separate from the current Bulk Storage program**

While adopting Option 1 as described above would provide a near-term fix to the REAP to enable the participation of some longer-duration resources in the 2026 and 2027 Bulk solicitations, the current program would still fall far short of longer-term grid needs for LDES and multiday storage (MDS) resources. **NY-BEST therefore recommends the Commission launch a separate,**

**dedicated LDES/ MDS program to procure 1,500 MW of 10-24 hour resources and 1,500 MW of 24+ hour resources, with procurements starting by the end of 2027 and 3 GW contracted by the end of 2030.**

We recommend these two procurement buckets for the following reasons:

- Establishing a program that defines LDES as 10 hours and greater aligns with NYSERDA's Technoeconomic Analysis and federal definitions of LDES.
- MDS provides fundamentally different services to the electricity grid as LDES, such as supporting system resiliency during extreme summer heatwaves and winter storms lasting multiple days, and during longer lulls in renewable generation. While the State's need for more long-lasting firm capacity is evident in modeling done by the NYISO and for the State Energy Plan, the current 8-hr procurement is unlikely to be successful in advancing MDS projects, particularly given the 8hr cap on ISC generation. Thus, we recommend a separate procurement bucket for MDS.
- This two-pronged approach aligns with similar initiatives in other leading states:
  - California is procuring 1 GW of 12+ hour storage and 1 GW of multiday storage, while Massachusetts is procuring 750 MW of 10-24 hour storage and 750 MW of storage exceeding 24 hours.
  - Michigan's legislature similarly defined long-duration storage as having 10+ hour duration and multiday storage as having greater than 24-hr duration. The Michigan regulator issued a study of long-duration and multi-day storage,<sup>6</sup> finding that 2.5 GW of long-duration and multiday storage could reliably substitute for 2.5 GW of aging dispatchable generation capacity, and that utilities should improve modeling to include these resources in their planning.<sup>7</sup>
  - The Virginia legislature passed a law in 2025 requiring utilities to procure 2 GW of long-duration storage, 2 GW of multiday storage, and 6 GW of short-duration storage by 2045. (The bill was subsequently vetoed by the outgoing governor and is being reintroduced this year with the same LDES and MDS targets included.<sup>8</sup>)
- Recognizing that New York State modeling shows a need for more than 20 GW of clean firm / DEFR resources by 2040 (see Section III below), an LDES/MDS procurement program aimed at contracting 3 GW by 2030 will establish a market that puts us on the right path toward that goal. Notably, the 3 GW LDES/MDS target is aligned with the size of the first short-duration Storage Roadmap, which established an initial 3 GW target for intraday energy storage resources. Further, establishing two separate buckets of 1,500 MW each also allows for more flexibility for larger assets with economies of scale to participate in the program.

A dedicated 3 GW procurement program for LDES and MDS would:

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<sup>6</sup> Michigan Senate Bill 271, Act No. 235, Effective February 27, 2024, available [here](#).

<sup>7</sup> Michigan Public Service Commission, Study of Long Duration and Multi-Day Energy Storage, February 27, 2025, available [here](#).

<sup>8</sup> See Virginia House Bill 2537 (2025), adopted February 20, 2025 and vetoed, and draft legislation approved by the Commission on Electric Utility Regulation to be introduced in 2026, available [here](#).

- **Establish a new class of reliability assets and accelerate market development.** A clear, multi-GW procurement target provides the strong market signal that LDES and MDS companies and investors need to commit capital and scale manufacturing.
- **Enable steady progress toward clean-firm capacity goals.** With grid reliability needs projected to increase dramatically in the 2030s, establishing procurement targets now ensures adequate lead time for project development and interconnection.
- **Minimize future infrastructure costs.** As recommended in NYSERDA's Technoeconomic Analysis (p. 357), investing in grid-enhancing technologies like energy storage early can reduce the need for capital- and time-intensive generation and transmission projects later.
- **Cost-effectively accelerate progress toward renewable targets.** LDES and MDS enable higher penetration and integration of existing renewable resources by minimizing curtailment. This can help New York catch up to its renewable energy targets more cost-effectively, accelerating progress while maximizing the State's return on generation investments.
- **Ensure fair evaluation.** A two-bucket approach (10-24 hour and 24+ hour) enables appropriate comparisons between resources of different durations that provide different values to the grid, avoiding the competitiveness issues identified in the current Bulk Storage program structure.

### III. Establish Clean-Firm capacity targets and develop a Roadmap to achieve them

Beyond the immediate horizon, New York must prepare for substantially larger clean-firm capacity needs than a 3GW LDES procurement program would satisfy. The New York Independent System Operator (NYISO) has repeatedly emphasized the need for dispatchable emissions-free resources (DEFERs) to ensure grid reliability as we transition away from fossil fuels. The recently finalized New York State Energy Plan estimates a need for, in both the Current Policies and Additional Action Pathways, approximately 20-22 GW of clean firm resources (including a projected 5-7 GW of nuclear and 14-16 GW of zero-carbon firm resources) by 2040<sup>9</sup> to maintain reliability as existing fossil fuel plants retire in line with the CLCPA's zero-emissions grid mandate. Notably, the State Energy Plan Net Zero Pathways would require 26-29 GW of zero-carbon firm resources.<sup>10</sup> The NYISO Outlook Scenarios,<sup>11</sup> the NYSERDA Grid Performance Gaps Analysis,<sup>12</sup> the Energy Storage Roadmap 2.0 LDES Study,<sup>13</sup> and the Climate Action Council Scoping Plan<sup>14</sup> have estimated similar or greater needs, as illustrated in the chart below.

<sup>9</sup> New York State Energy Planning Board. *2025 Energy Plan*, adopted December 16, 2025. Chapter 16: Pathways Analysis, "Figure 26: Additional Action, Total Installed Capacity: 2.2 GW Nuclear Variant (left) vs 3.3 GW Nuclear Variant (right)," page 34. Accessed [here](#).

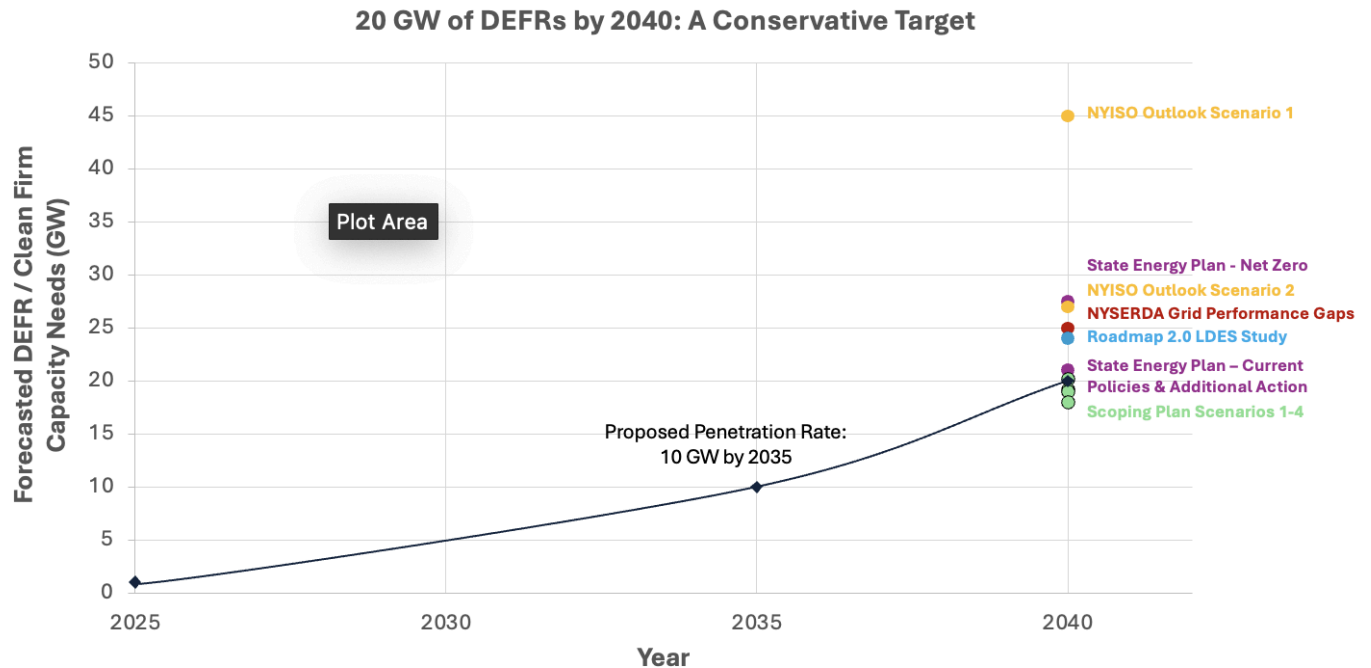
<sup>10</sup> Ibid., "Figure 29. Net Zero A and B, Installed Capacity Results: Net Zero A (left), Net Zero B (right)," page 38.

<sup>11</sup> New York Independent System Operator (NYISO), *2023-2042 System and Resource Outlook*, July 23, 2024. Accessed [here](#).

<sup>12</sup> NYSERDA, *Grid Performance Gaps Study*, April 2025. Accessed [here](#).

<sup>13</sup> NYSERDA and the New York Department of Public Service, *New York's 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage*, March 15, 2024, p65. Accessed [here](#).

<sup>14</sup> New York State, *Scoping Plan*, adopted December 2022. Accessed [here](#).



*State modeling demonstrates a need for upwards of 20 GW of Dispatchable Emissions-Free Resources (DEFRs) or “clean-firm” resources by 2040 to meet CLCPA mandates and ensure a reliable grid.*

The 20 GW target for clean-firm resources or DEFRs is likely conservative, but meeting this target requires deliberate planning and sustained procurement activity starting now. **NY-BEST recommends the Commission:**

- A. **Establish a clean-firm capacity target of 20 GW by 2040**, with an interim milestone of 10 GW by 2035. These targets align with state energy planning and provide the clear market signal necessary to drive investment and technology deployment at scale.
- B. **Direct NYSERDA to develop a comprehensive Clean-Firm Resources Roadmap** that establishes clear deployment milestones and procurement schedules to achieve these targets. This Roadmap should:
  - Evaluate options for technology-agnostic procurement programs that allow LDES, hydrogen paired with fuel cells or electrolyzers, advanced nuclear, and other emerging clean-firm technologies to compete on cost and performance. Such options need careful consideration to allow fair comparisons between disparate technologies.
  - Establish clear performance criteria for qualifying resources, such as the ability to ramp up or down within ten minutes to respond to grid needs and zero emissions of greenhouse gases or air pollutants.
  - Include a phased procurement schedule with regular solicitation cycles that provide consistent market signals and enable course corrections based on technology development, cost trends, and evolving grid needs.

- Invite opportunities for robust stakeholder comments to ensure any resulting procurement program maximizes fair competition while enabling diversity in the clean-firm resource portfolio as appropriate.

A comprehensive Clean-Firm Resources Roadmap would provide the long-term visibility that developers, manufacturers, and investors need to commit resources to New York projects. Despite their promise, clean-firm technologies will not be deployed at the scale required to transition to a reliable, zero-emissions grid by 2040 without clear targets and procurement schedules. The Roadmap will ensure that procurement activities are cost-effective and remain aligned with the State's broader decarbonization and equity goals under the CLCPA.