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*Re: Recommended Improvements to Storage Accreditation under CAR*

Dear ISO-NE Markets Team,

The below signed organizations appreciate this opportunity to provide feedback on ISO-NE's proposed scope for its Capacity Auction Reforms ("CAR") project. The signed companies and organizations represent over 7 GW of energy storage projects, both transmission-level and distribution-level storage, currently under development or in operation in ISO-NE, as well as interests from advanced energy technologies more broadly.

As discussed further below, in these comments we offer two recommendations on the accreditation component of the CAR for ISO-NE's consideration. First, we urge ISO-NE to define what it means by value by developing criteria to measure the success of the CAR. Specifically, we recommend these criteria consist of:

- (1) accurately reflecting realistic system conditions and reliability risks in the delivery period;
- (2) accounting for expected resource performance and contributions to reliability in the delivery period; and
- (3) sending appropriate entry and exit signals to achieve an overall cost-effective resource mix to meet system reliability.

Second, we encourage ISO-NE to include in its scope an evaluation of how modeled risk relates to observed real-world risk in ISO-NE's accreditation methodology. Specifically, we request that

ISO-NE explicitly include in its proposed scope: 1) assumptions influencing modeled risk events, including winter reliability events and 2) revisions to load and resource models. We also request that ISO-NE include sufficient time for discussion and feedback on these topics in ISO-NE's work plan for the CAR.

We believe these recommendations are consistent with the ISO-NE Strategic Plan which notes that one of ISO-NE's strategic goals is to "improve the current market structure and continue to evolve and reposition the market design to reflect the states' objectives and the transition to high levels of renewables and distributed resources" as well as to "maintain a robust fleet of balancing resources and preserve the ability of the market to attract new entry."<sup>1</sup>

### **Accreditation has a lasting and profound impact on the viability of energy storage in ISO-NE**

Energy storage will be an essential component of ISO-NE's future resource mix. As ISO-NE has acknowledged, energy storage resources provide numerous reliability, operational, and economic benefits, especially in light of changing load patterns and increased variable generation.<sup>2</sup> States and large energy consumers are increasingly seeking energy storage projects to help fulfill their energy and capacity needs. For example, Connecticut has a goal of 1,000 MW of storage by 2030,<sup>3</sup> Maine has a target of 400 MW by 2030,<sup>4</sup> Rhode Island has a target of 600 MW by 2033,<sup>5</sup> and Massachusetts has a target of 1,000 MWh in 2025.<sup>6</sup> Yet, in contrast to other regions of the country, comparatively few battery storage projects have been completed in ISO-NE (e.g., 7.3 GW in CAISO, 3.2 GW in ERCOT, compared to 330 MW in ISO-NE).<sup>7</sup> While battery storage projects make up 46% of the ISO-NE interconnection queue,<sup>8</sup> without adequate revenue opportunities, these projects may never achieve commercial operation.

While new or redesigned ancillary services markets<sup>9</sup> may provide better revenue opportunities in the future, these markets alone will not be sufficient to incentivize investment. New resources entering into ISO-NE's wholesale markets have typically relied on the capacity market to provide the revenue needed to make a project commercially viable. Capacity market revenues have historically been more predictable and financeable than other market revenues. As discussed further below, banks and other investors need some degree of certainty about future

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<sup>1</sup> <https://www.iso-ne.com/static-assets/documents/2022/10/2022-strategic-plan-vision-in-action.pdf>, page 12

<sup>2</sup> <https://www.iso-ne.com/about/what-we-do/in-depth/batteries-as-energy-storage-in-new-england>

<sup>3</sup> SB 952 (2021)

<sup>4</sup> SP 213 (2021)

<sup>5</sup> 2024 Energy Storage System Act

<sup>6</sup> HB 4857 (2018)

<sup>7</sup> <https://www.eia.gov/todayinenergy/detail.php?id=61202>

<sup>8</sup> <https://www.iso-ne.com/about/what-we-do/in-depth/batteries-as-energy-storage-in-new-england>

<sup>9</sup> <https://www.utilitydive.com/news/ferc-iso-ne-day-ahead-ancillary-services-initiative/706602/>

revenues to finance the construction of new projects. Without this financing, projects in ISO-NE's interconnection queue will not be completed.

Complex accreditation methods like ELCC or MRI create uncertainty for those pursuing new development or re-investment in existing resources due to the sensitivity of the model to the input assumptions. Specifically, the quantity of capacity product that can be sold will be determined almost entirely by computer models relying on subjective assumptions. ISO-NE should strive to limit this uncertainty as much as possible to ensure that the capacity market continues to be a source of financeable revenue for investment and accurate and cost-effective resource adequacy.

Given the capacity market's outsized role in selecting which projects ultimately achieve commercial operation (which will continue even as the region moves to a prompt market), the accreditation component of the CAR project will have a lasting and profound impact on the generation mix in ISO-NE. Based on previous RCA discussions, we are concerned that ISO-NE's accreditation methodology will send a strong signal *not* to invest in storage resources. An accreditation methodology that inaccurately represents the reliability attributes of resources can result in the over-procurement of capacity, ultimately increasing the costs for ratepayers. We believe that this is inconsistent with the system reliability needs and policy objectives of the region, will result in the over procurement of resources in the capacity market, and therefore, increase costs to consumers.

We therefore urge ISO-NE to adopt the suggestions below in its proposed scope for the CAR.

**ISO-NE should clearly define what it means by “value” and develop criteria to define how it will measure the success of the CAR**

Among the objectives listed in ISO-NE's initial scoping document, there is not an overarching goal that defines the type of system ISO-NE is working to create via the CAR process. Clear goal setting is a critical part of project design and will ultimately help stakeholders feel confident that the project was successful. We encourage ISO-NE to include in its scoping document the criteria it will use to measure the success of CAR, including:

- Whether the design accurately reflects realistic system conditions and reliability risks in the delivery period;
- Whether the design accounts for expected resource performance and contributions to reliability in the delivery period; and
- Whether the design sends appropriate entry and exit signals to achieve an overall resource mix to efficiently meet system reliability needs.

These criteria should inform the three objectives that ISO-NE outlined in their July presentation. ISO-NE's second objective in its proposed scope is to prioritize design work that creates the most

value.<sup>10</sup> At the Markets Committee Meeting on July 10, ISO-NE clarified that it is proposing that the CAR should seek to find the most cost-effective or efficient means to meet resource adequacy needs. We encourage ISO-NE to adopt a definition of value that includes the three design principles suggested above, such that design elements will maximize value by helping the system meet these goals.

ISO-NE should carefully consider the impact its accreditation methodology will have on its future resource mix. ISO-NE will need storage resources to address operational challenges associated with intermittent renewable resources. The value these resources provide are not limited to the day-to-day reserves and operational flexibility they provide but include their contribution to resource adequacy during hours when generation and load may vary. An accreditation methodology that substantially and inappropriately impairs the commercial viability of new storage projects should not be considered a success.

**ISO-NE should explicitly include in its scope discussion of how the modeled risk relates to observed real-world risk**

To ensure system modeling under CAR accurately reflects expected system conditions, we request that the following two topics are included in the CAR Scope:

***a. Discussion of Assumptions Influencing Modeled Risk Events, Including Winter Reliability Events***

The treatment of winter-weather related risk is a large source of potential uncertainty in ISO-NE's accreditation methodology. In PJM's recent ELCC filing, PJM provided little detail on how it would treat performance during winter weather. Stakeholders subsequently learned that performance during winter events drove the vast majority of the final accreditation. Ultimately, PJM's methodology attributes 70% of a resource class's accreditation to performance during just two winter weather events.<sup>11</sup> As PJM finalized the weather-related aspects of its accreditation methodology, numerous resource classes saw their accreditation fall substantially, in some cases by over 20%.<sup>12</sup> Stakeholders subsequently sought rehearing of the Commission order accepting PJM's methodology and the Commission has yet to issue a substantive order on that rehearing request.<sup>13</sup> To avoid similar confusion for participants, ISO-NE should include discussing the treatment of winter-related risk in its proposed scope of work.

We acknowledge that long-duration winter events may be a significant reliability risk, though do not believe that is the only risk that the capacity market should be addressing. Energy storage can

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<sup>10</sup> [https://www.iso-ne.com/static-assets/documents/100013/a08\\_mc\\_2024\\_07\\_09-10\\_initial\\_car\\_scope\\_considerations.pdf](https://www.iso-ne.com/static-assets/documents/100013/a08_mc_2024_07_09-10_initial_car_scope_considerations.pdf)

<sup>11</sup> [elcc-education.ashx \(pjm.com\)](https://elcc-education.ashx(pjm.com)), Slide 29.

<sup>12</sup> [elcc-education.ashx \(pjm.com\)](https://elcc-education.ashx(pjm.com)), Slide 34.

<sup>13</sup> Docket No. ER24-99.

and will play a key role in providing capacity during shorter duration summer and winter events. For this reason, assumptions surrounding modeled risk events should be explicitly stated and discussed and should match the risk likely to occur in extreme events in the coming year. Additionally, ISO-NE should explicitly include a discussion about how modeling and outcomes from the CAR project will inform the discussion regarding a Regional Energy Shortfall Threshold (REST).

We are concerned that the accreditation process will become a “black box” where resource owners will not fully understand why their resources are accredited a certain amount of capacity nor the process the ISO used to calculate the accredited values. Holding additional discussions on the modeling assumptions and process, including examples, will improve transparency and stakeholder confidence in the process.

### ***b. Revisions to Load and Resource Models***

In its July MC meeting presentation, ISO-NE noted that it is considering modeling enhancements that include revising the existing load model and modeling frameworks for various resource types.<sup>14</sup> Ensuring that the models that ISO-NE is using accurately reflect expected reliability risks and expected reliability contributions should be a core focus of the accreditation portion of the CAR project. If the market value of storage resources is understated, or the market value of other resources is overstated, via modeled system conditions or resource operations, market outcomes (both in the capacity market and outside it) will not be cost-effective.

For example, in New York, after having made similar changes to their resource adequacy framework, the New York State Reliability Council asked NYISO to compare<sup>15</sup> their load models to observed risk and ensure that their load models were accurately capturing system needs, with an eye specifically towards understanding how their load modeling and scaling may be over- or under-estimating energy forecasts and energy shortfalls moving forward. This has led to a proposed change in NYISO’s load scaling methodology to better align the seasonal peak forecasts with the energy forecast distributed at monthly and zonal levels<sup>16</sup>.

Like New York, we expect that ISO-NE will address unexpected or surprising results that arise from the impact analyses, including the impact analysis that has been done for the accreditation work so far. Based on the results that have been published so far and the significant changes in the capacity auction framework that are to be discussed soon, we urge ISO-NE to include additional discussions of the load model and generator performance early in the CAR project, with a specific discussion about how the models reflect appropriate risks, as these are fundamentals which will impact the rest of the market design.

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<sup>14</sup> [a08\\_mc\\_2024\\_07\\_09-10\\_initial\\_car\\_scope\\_considerations.pdf\(iso-ne.com\)](#), Slide 36.

<sup>15</sup> [Slide 1 \(nysrc.org\)](#)

<sup>16</sup> [Alternative Load Shape Adjustment Method - 05012024 ICS \(nysrc.org\)](#)

## Conclusion

We respectfully recommend that ISO-NE develop design criteria to measure the success of CAR to ensure we implement an efficient, effective, and just and reasonable capacity market. Furthermore, we kindly request ISO-NE facilitate more discussion on how the modeled risk relates to observed real-world risk to enhance transparency and design parameters that procure the amount of capacity and types of resources we need to maintain a reliable, least-cost decarbonized grid of the future. We look forward to hearing ISO-NE's response to these comments in upcoming Markets Committee meetings.

Respectfully Submitted,

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