

Capacity Auction Reforms: Seasonal/Accreditation (CAR-SA)



*Resource Accreditation Modeling:
Additional Near-Term Base Case Details, Modeling Updates, Further
Explanation and Analysis of Stakeholder Concepts*

Chris Geissler & Fei Zeng

DIRECTOR, ECONOMIC ANALYSIS & MANAGER, PLANNING SERVICES DEVELOPMENT & SOLUTION



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- **Today's discussion:**
 - Sensitivity that calculates accreditation values for energy storage at a lower penetration level that is comparable to that observed in PJM's most recent Base Residual Auction
 - Results from a sensitivity analysis requested by storage stakeholders that tests a different concept for modeling the interfaces with neighboring regions, including capacity and energy imports and the tie benefits associated with the interfaces
- The ISO continues to provide an Impact Analysis (IA) that shows the potential quantitative and qualitative impacts of the CAR proposal. This analysis equips stakeholders with a better understanding of how CAR may affect how much capacity they can sell
 - The market clearing analysis explores wholesale market revenues and costs under specific assumed scenarios, as well as other key parameters
- This presentation builds upon previous discussions:
 - [March, April, May, June, July & August 2026](#): Preliminary Results and Additional Analyses
 - [December 2025, January & February, March, April, and May 2026](#): Introductory and Follow-Up Presentations on Assumptions

Purpose of the IA & Results Interpretation

- The Resource Accreditation Modeling IA aims to use the RAA model outcomes generated based on a set of input assumptions to provide the region with directional information about the CAR design
- These IA results should not be interpreted as ISO predictions or forecasts of future model or market outcomes
- Modeling multiple cases will help stakeholders develop their own expectations about the potential impacts of CAR under a range of potential conditions



Limitations of the IA Modeling

- The IA uses assumptions about the resource mix, key input parameters associated with each resource, and the load forecast that are likely to be different under various and unknown future conditions or actual market behaviors
- The IA results are generally consistent with the design as it is proposed today, but may not reflect the final proposal for numerous reasons, including:
 - The potential for updates to the design based on continued ISO assessment and discussion with stakeholders
 - The translation of the proposal into production software may require further refinement of design elements
- For details of the assumptions and model inputs for the cases in this presentation, see Appendix A of the [March Resource Accreditation Modeling IA presentation](#)
- The data and outputs provided are shared in a summarized manner to comply with the information policy



SENSITIVITY ANALYSIS (1)

Evaluation of rMRI of Energy Storage with Comparable Saturation Level to Other Regions



Background: Energy Storage Accreditation in the RAM IA

- As part of the RAM IA, the ISO has provided a range of cases and sensitivities that illustrate how energy storage accreditation is heavily dependent on the season and the quantity of energy storage included in the case
 - Includes the Near-Term Base Case, which assumes all energy storage that has qualified for CCP 18 becomes commercial as well as the ‘Commercial Storage Only’ sensitivity which limits the energy storage to that which is currently operational
- The analysis has shown that as the quantity of energy storage increases, the rMRI for this resource class decreases
- This result is logical as when the quantity of energy storage resources increases, these resources are dispatched more frequently to meet system energy needs, resulting in longer reliability events that are increasingly constrained by stored energy limitations

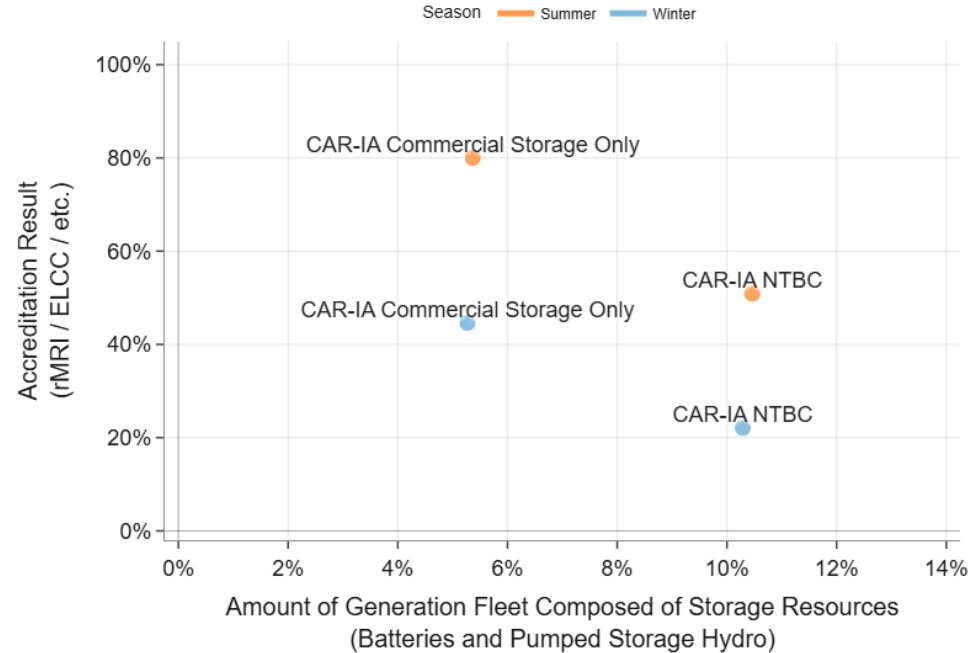
Analyzing the Relationship Between Energy Storage Penetration and Accreditation

- The analysis will focus on a single duration for ease of comparison between cases, where 4 hours is used as this is a common duration
- More specifically, the assessment will consider how the accreditation of a 4-hour energy storage resource is impacted by changes in energy storage's share of total capacity, where we'll hold other factors such as the non-storage resource mix and load profiles consistent with those assumed in the Near-Term Base Case
- *Next:* Show the accreditation as a function of storage penetration for the two cases studied for summer and winter



4-Hour Energy Storage Proxy Resource Accreditation in the CAR RAM IA

- In the CAR IA Near Term Base Case, storage resources account for ~10% of the resource mix
- In May, the ISO presented the commercial storage only sensitivity, which cuts storage's share of total capacity such that all storage resources account for ~5% of the resource mix
- This reduction in the share of storage results in these resources seeing a significant increase in their accreditation values
 - For example, a 4-hour battery would see its accreditation double in the winter (from ~22% to ~45%)



*All points reflect ES/EL-Adjusted Accreditation

Comparison of Storage Accreditation to Other Regions

- Some stakeholders have noted that the rMRI values shared in the RAM IA for energy storage are lower than those in other regions with related capacity accreditation frameworks
- This difference is driven by a number of factors including different system characteristics, resource adequacy modeling methods and assumptions, and approaches to calculating resources' accredited market capacity
- A key driver is likely that the RAM IA cases assume a considerably higher level of energy storage (as a percent of total nameplate capacity) than the share of energy storage observed in other regions
- *Next:* Compare the RAM IA storage accreditation values to those in PJM, and assess the impact of the storage penetration levels on rMRIs further with a sensitivity analysis

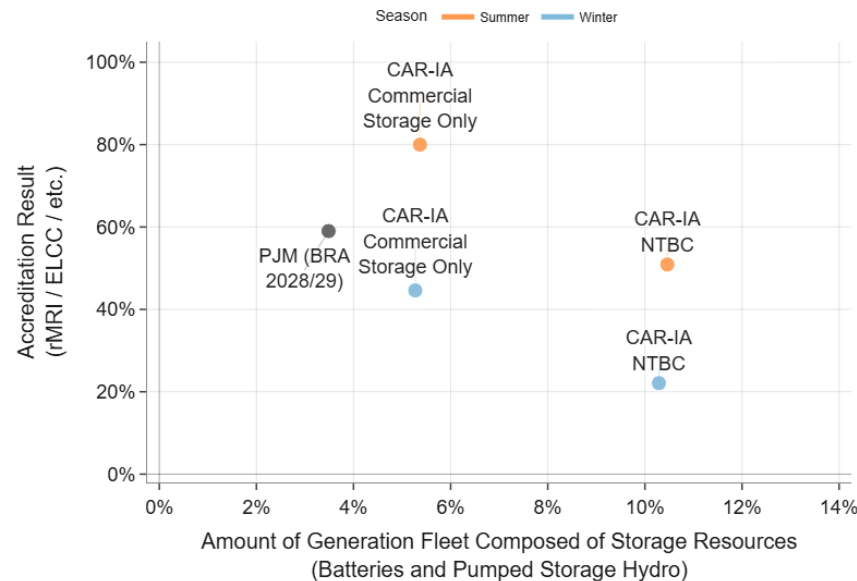


Accreditation and Storage Penetration in PJM

- PJM uses a marginal accreditation methodology based on EUE MW as the reference metric, allowing for an apples-to-apples comparison
 - While PJM calculates ELCC on an annual basis, this value is primarily driven by winter reliability events
- In its 2028/29 Base Residual Auction, energy storage comprised roughly 3.5 percent of total installed capacity ([Published PJM Resource Mix](#))
 - i.e., lower than the storage levels of ~10% and ~5% of total capacity in the ISO-NE RAM IA comparison cases
- *Next:* Show how this storage share and its corresponding rMRI compare to those from the RAM IA

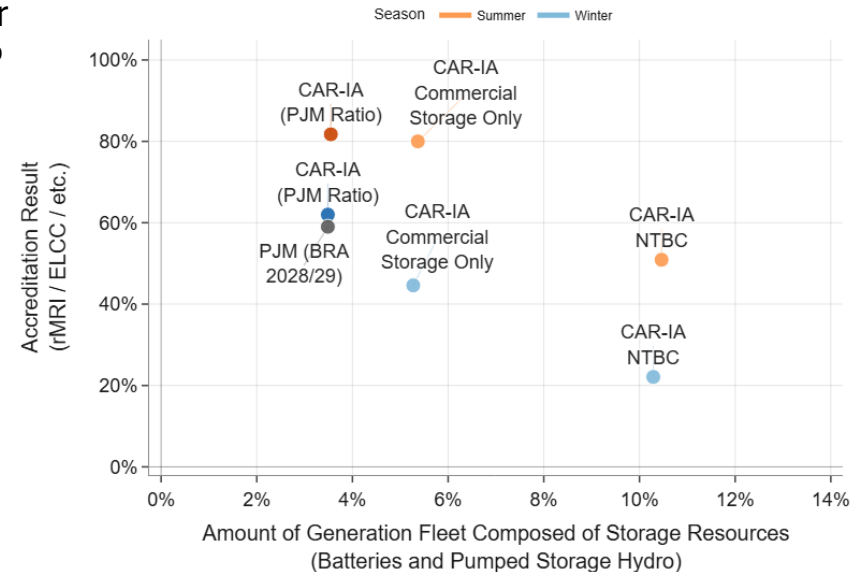
Comparison to PJM 2028/29 BRA Results

- In its 2028/29 BRA, PJM saw a lower share of energy storage than in either the Near-Term Base Case or Commercial Storage Only sensitivity from the RAM IA
- In PJM, a 4-hour battery had an annual accreditation value of 59% which, compared with the Commercial Storage Only case, falls in between the winter and summer accreditation values of 44% and 80%, respectively
 - ELCC's for 4-hour energy storage in PJM for BRA 28/29 are [available here](#), and also show indicative values for future years that steadily decline from this 59% value
- *Recall:* In PJM's model, the majority of the reliability risk is in the winter suggesting their annual value is more comparable to the ISO's winter value
- *Next:* Run a RAM IA sensitivity that decreases the system share of energy storage in New England to the level experienced in PJM's 2028/29 BRA



Alternative ISO-NE Resource Mix Sensitivity Analysis

- In this sensitivity, where the storage's share of capacity is assumed equivalent to that observed in PJM, a 4-hour energy storage resource would have an rMRI of 82% in the summer and 62% in the winter
 - Each seasonal value exceeds the annual value of 59% for 4-hour energy storage in PJM, at storage levels of 3.5%
- *Implication:* Under the scenario studied and equivalent storage levels, CAR-SA would provide higher accreditation values for 4-hour energy storage than those observed in PJM
- *However, as noted earlier:* There are many differences in the modeling methodology and assumptions, resource mix, and load profiles that would create differences between the PJM and RAM IA values. These sensitivity results cannot be interpreted as reflecting the accreditation values that would occur using the CAR-SA proposal on PJM's resource mix and load profiles



Sensitivity Analysis (1) Key Observations

- The ISO ran a new sensitivity in response to stakeholder comments regarding differences in storage accreditation across regions
- The sensitivity reduced the share of capacity associated with energy storage to be commensurate with that observed in PJM's BRA 28/29 and found a similar winter accreditation value for 4-hour storage as was observed on an annual basis in PJM
- This result reinforces the RAM IA finding that energy storage accreditation is highly sensitive to its share of total capacity and suggests that energy storage's higher assumed share of capacity in New England is a key driver behind differences between accreditation values observed in the Near-Term Base Case and other regions

SENSITIVITY ANALYSIS (2)

Evaluation of conceptually different modeling and assumptions of external area contributions



Background

- In July, a group of stakeholders interested in the energy storage modeling asked the ISO to conduct a sensitivity analysis of the RAM IA Near-Term Base Case using a different method to model capacity and tie benefits/energy flows across external interfaces
- The group provided hypothetical assumptions specific to capacity imports and tie benefits/energy flows across the external interfaces, as summarized on a later slide
- The ISO used these assumptions to develop several sensitivity cases and assess their effects on the model results for demand parameters, key reliability metrics and resource accreditation
- This analysis may directionally provide a better understanding of how the model responds, and how rMRI values adjust in a system where additional off-peak energy is assumed to be available from external control areas
- As noted in [the August MC materials](#), the ISO is providing this sensitivity for informational purposes and would not support adopting such a modeling approach into its base design given the design implications raised by overwriting the current methodology

Storage Stakeholders' Proposed Alternative Modeling

- Energy contribution from NECEC
 - The group proposed incorporating an energy contribution from NECEC during off-peak hours
 - Under both the current FCM and the ISO's proposed CAR-SA framework
 - External Elective Transmission Upgrade (ETU) would be included in the modeling and permitted to participate in the capacity market only if Capacity Network Import Capability (CNIC) has been established, consistent with the treatment of other resources
 - No tie benefits contribution would be calculated for an ETU
 - NECEC currently does not have CNIC. Including NECEC in the modeling and assuming an energy contribution raises broader resource adequacy and market design considerations, including for example:
 - How non-capacity resources within the New England system should be treated within the resource adequacy framework;
 - Whether such treatment could produce outcomes that are inconsistent with the resource adequacy objective; and
 - Whether it could reduce modeled resource adequacy requirements and result in insufficient transmission capability being developed to maintain reliability
- Alternative tie benefits representation
 - The group also proposed representing tie benefits using a daily profile with higher contributions during off-peak hours than during on-peak hours
 - Under both the current FCM and the ISO's proposed CAR-SA framework
 - Tie benefits are calculated through a tie benefits study and expressed as a firm-capacity equivalent that produces an equivalent LOLE impact
 - The resulting tie benefits values reflect the aggregate reliability contribution that neighboring areas can provide across both on-peak and off-peak hours to mitigate LOLE risk
- On-peak and off-peak hours are based on the current definitions in the ISO glossary
 - Off-Peak Hours: In New England, weekday hours between 11:00 p.m. and 7:00 a.m. and all day Saturdays, Sundays, and holidays
 - On-Peak Hours: In New England, the interval between 7:00 a.m. and 11:00 p.m. on nonholiday weekdays

Storage Stakeholders' Proposed Assumptions for NECEC Modeling

- Assume an energy contribution modeled using a daily profile
 - Both summer and winter: 0 MW during on-peak hours and 1,100 MW during off-peak hours
 - Assume no associated capacity imports
- The proposal does not include a methodology on how to determine the on-peak and off-peak energy contribution from NECEC are determined, which as a design choice would need to consider, for example:
 - Whether the assumed contribution is intended to apply only in the absence of CNIC and associated capacity imports
 - How the assumed contribution would change if NECEC establishes CNIC and associated capacity imports
 - Whether the assumed energy contribution is interdependent with capacity imports or tie benefits associated with other external interfaces

Storage Stakeholders' Proposed Assumptions for Alternative Tie Benefits Modeling

- Model tie benefits using a daily profile based on assumptions that differ from the ISO's tie benefits study
 - Winter: 0 MW during on-peak hours and 1,500 MW during off-peak hours
 - Summer: 1,000 MW during on-peak hours and 2,500 MW during off-peak hours
 - The assumed tie benefits values are lower than those calculated in the ISO's tie benefits study and may therefore result in higher Net ICR requirements
- The group also proposed to model capacity imports as firm capacity using different of assumptions
 - Winter: 386 MW for all hours
 - Summer: 1,500 MW for all hours
 - The assumed capacity import values are lower than those reflected in the ISO's proposal
- The proposal does not include a methodology for determining the off-peak and on-peak tie benefits contributions, which as a design choice would need to consider, for example:
 - Whether a revised tie benefits study methodology would be required to derive values that reasonably represent expected contributions during on and off-peak periods when the system and its neighbors are at criteria
 - Whether the assumptions are derived from, or intended to replace, the ISO's calculated tie benefits results
 - How the tie benefits assumptions would interact with capacity imports
 - Whether the assumptions would limit the amount of capacity imports to be qualified and modeled
 - Whether there are dependencies among neighboring-area resources supporting tie benefits, capacity imports, and the proposed NECEC energy contribution
 - How the Capacity Transfer Limit would be calculated
 - How the HQICC would be determined
 - Whether the proposed methodology would fully address potential complicated interdependencies among these parameters, which function as both inputs and outputs in various processes, some of which must be performed in a specific sequence

Sensitivity Analysis (2) Study Cases

- The ISO developed three additional sensitivity cases to assess the individual and combined impacts of the proposed assumptions on NECEC and alternative Tie Benefits modeling, which has been reviewed and verified by the group of stakeholders who requested the sensitivity
 - Previously Presented:
 - Case 1: NTBC (IA Final Near-Term Base Case)
 - **Additional Cases:**
 - i. Case 2a: NTBC w/ requested NECEC modeling only
 - ii. Case 2b: NTBC w/ requested alternative Tie Benefits modeling only
 - iii. Case 2c: NTBC w/ combined requested NECEC and alternative Tie Benefits modeling

Comparison to CAR IA Assumptions

Time of Day	Case Name	Summer				Winter			
		TB	Imports	TB + Imports	MCap	TB	Imports	TB + Imports	MCap
On-Peak	Case 1 (NTBC)	1,795	2,205	4,000	37,060	555	1,331	1,886	37,666
	Case 2a (NECEC)	1,795	2,205	4,000	37,060	555	1,331	1,886	37,666
	Case 2b (Alt TB)	1,000	1,500	2,500	36,355	0	386	386	36,721
	Case 2c (NECEC & Alt TB)	1,000	1,500	2,500	36,355	0	386	386	36,721
Off-Peak	Case 1 (NTBC)	1,795	2,205	4,000	37,060	555	1,331	1,886	37,666
	Case 2a (NECEC)	2,895	2,205	5,100	37,060	1,655	1,331	2,986	37,666
	Case 2b (Alt TB)	2,500	1,500	4,000	36,355	1,500	386	1,886	36,721
	Case 2c (NECEC & Alt TB)	3,600	1,500	5,100	36,355	2,600	386	2,986	36,721

- Changes in MCap values across the cases reflect varying levels of assumed capacity imports

MCap = Maximum Capability

TB = Tie Benefits or energy assumption associated with NECEC

SENSITIVITY ANALYSIS (2) RESULTS



Impacts of Proposed NECEC Modeling

- Summary of Case 2a vs. Case 1: Impacts from assuming additional 1,100 MW of energy from NECEC during the off-peak hours
 - Summer
 - Minimal impact on Net ICR, key reliability metrics, and rMRI values for all resource types
 - Winter
 - Reduces Net ICR by approximately 130 MW
 - Lowers LOLH and EUE under at-criterion conditions
 - Results in comparable rMRI values for most resource types, but a slight increase for energy storage resources

Impacts of Proposed Alternative Tie Benefits Modeling

- Summary of Case 2b vs. Case 1: Impacts from requested alternative tie benefits modeling and assumptions (tie benefits contributions lower during on-peak hours, higher during off-peak hours, and lower modeled capacity imports)
 - Summer
 - Increases Net ICR by approximately 1,000 MW, primarily driven by the reduction in assumed on-peak tie benefits from 1,795 MW in the ISO analysis to 1,000 MW
 - Produces similar LOLH and EUE under at-criterion conditions
 - Results in comparable rMRI values across all resource types
 - Winter
 - Increases Net ICR by approximately 620 MW, primarily driven by the reduction in assumed on-peak tie benefits from 555 MW in the ISO analysis to 0 MW
 - Produces slightly lower LOLH while maintaining similar EUE under at-criterion conditions
 - Results in comparable rMRI values for most resource types, but a slight increase for energy storage resources
 - The increase in rMRI for energy storage is similar in magnitude to those under Case 2a

Combined Impacts from Proposed NECEC and Alternative Tie Benefits Modeling

- Summary of Case 2c vs. Case 1: Impacts from the combined requested NECEC and alternative Tie Benefits modeling and associated assumptions
 - Summer
 - Increases Net ICR by approximately 1,000 MW, primarily driven by the reduction in assumed on-peak tie benefits from 1,795 MW in the ISO analysis to 1,000 MW
 - Produces similar LOLH and EUE under at-criterion conditions
 - Results in comparable rMRI values across all resource types
 - Winter
 - Increases Net ICR by approximately 590 MW, primarily driven by the reduction in assumed on-peak tie benefits from 555 MW in the ISO analysis to 0 MW
 - Produces slightly lower LOLH and EUE under at-criterion conditions
 - Results in comparable rMRI values for most resource types, but a notable increase for energy storage resources

Detailed Sensitivity Results

Net ICR and Key Reliability Metrics

	Net ICR In MCap	ALCC (%)	Summer			Net ICR In MCap	ALCC (%)	Winter		
			LOLD	LOLH	EUE			LOLD	LOLH	EUE
Case 1 (NTBC)	31,991	15.8%	0.050	0.166	149	28,651	31.5%	0.050	0.273	317
Case 2a (NECEC)	31,991	15.8%	0.050	0.165	147	28,525	32.0%	0.050	0.252	298
Case 2b (Alt TB)	32,987	10.2%	0.050	0.166	155	29,273	25.4%	0.050	0.255	314
Case 2c (NECEC & Alt TB)	32,987	10.2%	0.050	0.166	155	29,240	25.6%	0.050	0.243	301

- Case 2a vs. Case 1
 - Summer: Minimal impacts on net ICR and key reliability metrics
 - Winter: Results in lower net ICR, LOLH and EUE because assuming additional energy from NECEC during the off-peak hours can help to reduce the duration of some extended MRI events that span off-peak hours and help to alleviate charging constraints for energy storage resources
- Case 2b vs. Case 1
 - Summer:
 - Assuming lower tie benefits contribution during on-peak hours (from 1,795 MW to 1,000 MW) is expected to increase net ICR by a similar magnitude
 - Assuming lower capacity imports (from 2,205 MW to 1,500 MW) is also expected to increase the net ICR as capacity imports generally perform better than the system-wide average resource
 - Winter:
 - Assuming lower tie benefits contribution during on-peak hours (from 555 MW to 0 MW) is expected to increase net ICR by similar magnitude
 - Assuming lower capacity imports (from 1,331 MW to 386 MW) is expected to increase net ICR as capacity imports generally perform better than the system-wide average resource
 - Assuming higher tie benefits contribution during off-peak hours (from 555 MW to 1,500 MW) is expected to partially offset factors that increase net ICR
- Case 2c vs. Case 1
 - Impacts of assumptions are similar to Case 2a

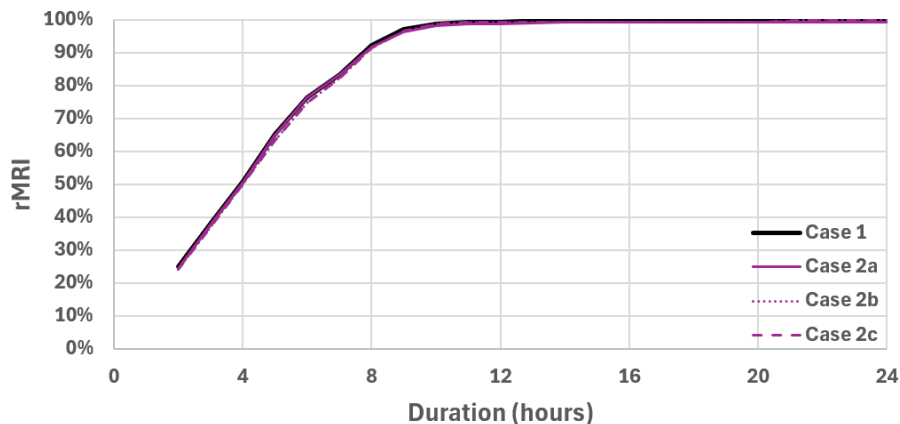
Detailed Sensitivity Results

Proxy Energy Storage rMRI Curves

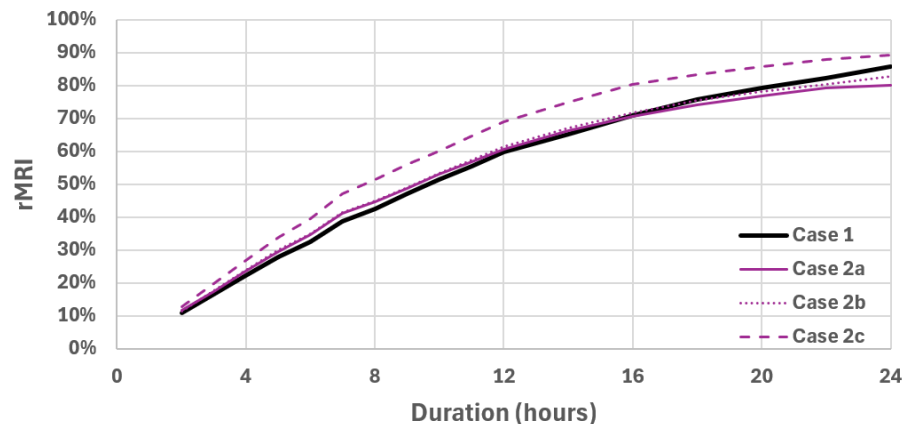
- rMRI values for energy storage resources in sensitivity Case 2a and 2b are similar to the IA Final Near-Term Base Case (Case 1) for the corresponding duration, while Case 2c results in higher rMRI values

Note: rMRI values for Case 1 (IA final Near-Term Base Case) includes the proposed EL/ES heuristic adjustment, while Cases 2a-2c do not. Values for these cases that include the heuristic are included in the appendix

Summer: Proxy Energy Storage rMRI by Case

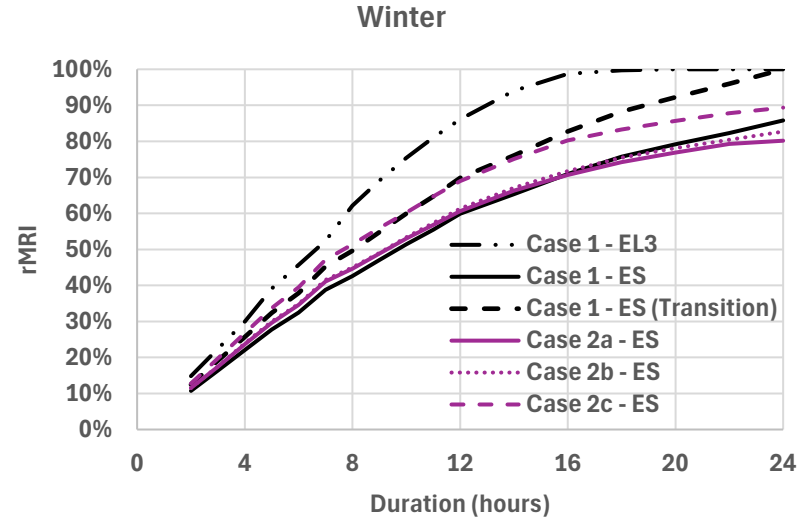


Winter: Proxy Energy Storage rMRI by Case



Winter Energy Storage rMRI Results From Various Proposals

- Case 1 – ES (IA Final Base Case) reflects the ISO’s proposed CAR-SA design
- Case 1 – ES (Transition) reflects the ISO’s proposed transition-period adjustment
- Case 1 – EL3 provides an estimate of one stakeholder proposal under which energy storage resources would be accredited as EL3 resources. The ISO does not support this approach because it does not reflect a key characteristic of energy storage resources: they depend on energy from the grid to replenish stored energy, whereas EL3 resources do not consume electricity in order to replenish their stored energy
- Sensitivity Cases 2a – ES , 2b – ES, and 2c – ES reflect sensitivity analyses requested by the storage stakeholder group. The ISO does not support adopting these modeling changes as part of the base design. The underlying assumptions are hypothetical, do not appear to be based on a defined methodology, and materially affect other model outcomes, including Net ICR, the impacts of which have not been fully addressed and may not align with the resource adequacy standards the capacity market is design to satisfy



Sensitivity Analysis (2) Key Observations

- Qualitatively:
 - The ISO understands the storage stakeholders' assumptions for these sensitivity cases to be purely hypothetical
 - The sensitivity results, therefore, can provide only directional observations about model behavior and cannot support a specific design decision
 - The results demonstrate that changing the tie benefits methodology and modeling would have broader implications for demand parameters, reliability metrics, and resource accreditation outcomes, and therefore cannot be considered as an isolated change
 - The challenges identified by the ISO were presented to the [August MC](#)
- Quantitatively:
 - All else equal, assuming higher tie benefits contributions during off-peak hours has minimal impact overall in the summer, but may result in a lower Net ICR and higher rMRI values for energy storage resources in the winter
 - All else equal, assuming lower tie benefits contributions during on-peak hours has a significant impact on Net ICR

AUGUST FOLLOW-UP



MRIC Summary by Capacity Zone

- The table below summarizes the MRIC values by capacity zone based on the IA Final Near-Term Base Case
 - The capacity zones shown are those evaluated in recent FCAs and will continue to be assessed through the zone formation process for future auctions, including Maine (ME), Norther New England (NNE), and Southeast New England (SENE)
 - The values include the EL/ES heuristic adjustment for energy limited and energy storage resources
 - The values do not include the impact of the transitional adjustment for energy limited and energy storage resources

		ISO-NE	ME	NNE	SENE
Summer	MCap	37,060.4	4,695.5	9,370.7	12,069.5
	rMRI	73.9%	68.3%	74.2%	67.3%
	MRIC	27,375.6	3,208.1	6,951.2	8,117.9
Winter	MCap	37,666.4	4,698.3	9,431.0	12,638.8
	rMRI	69.8%	66.5%	73.6%	63.7%
	MRIC	26,309.2	3,122.3	6,937.0	8,053.3

NOTE: Some zonal values differ slightly from those used in the illustrative examples in [August RC Presentation](#), which were based on an earlier version of the IA study case

Summary and Next Steps

- The ISO has provided additional sensitivities to give directional information on additional hypothetical scenarios to further illuminate modeling impacts
- ISO will continue to answer and follow up on questions stakeholders may have on the Resource Accreditation Modeling and generally on the CAR-SA design
- If you have any further questions on the CAR-SA follow-up answers provided, please reach out to Jasleen Singh (jsingh@iso-ne.com) or Dan Patnaude (dpatnaude@iso-ne.com) by September 21, 2026

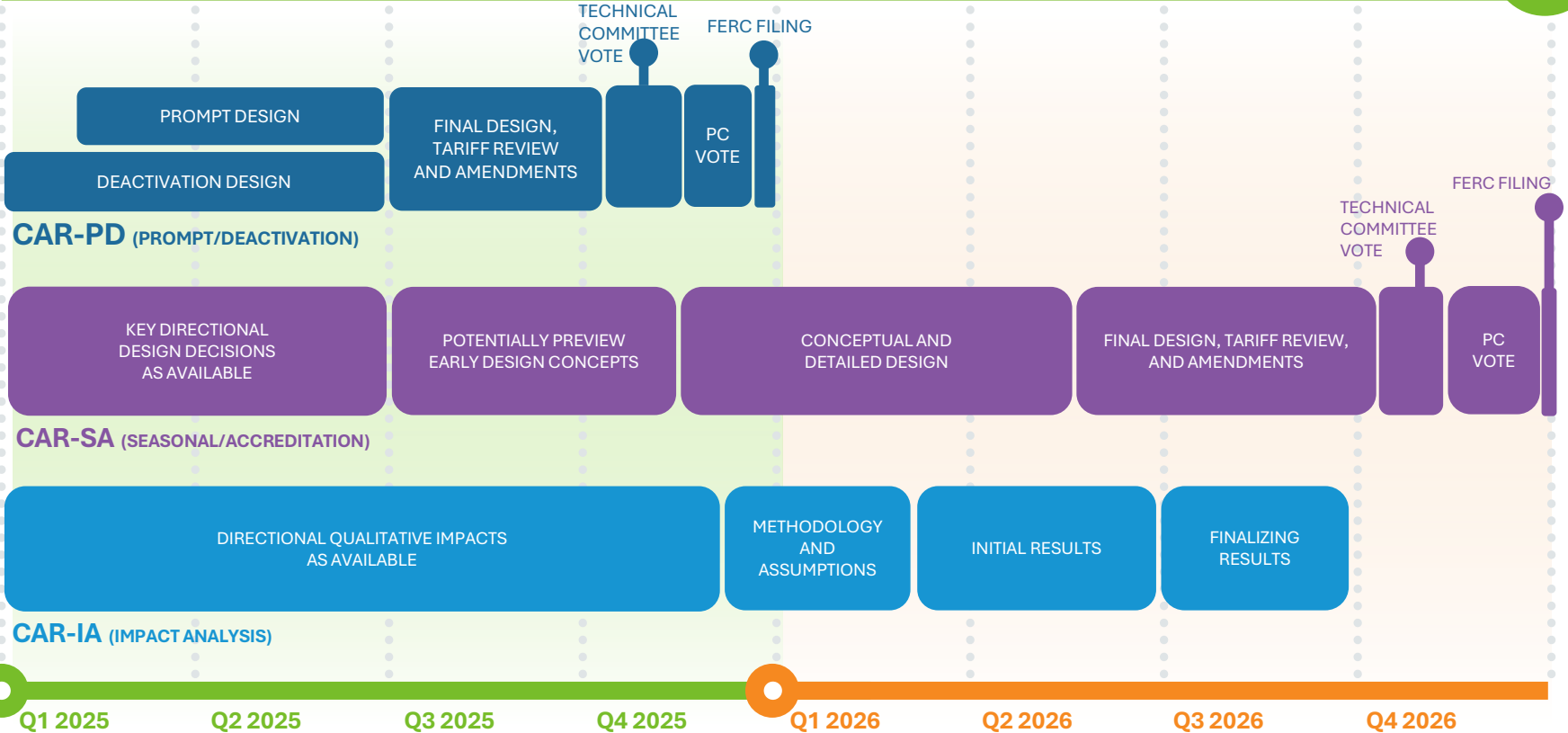
Questions

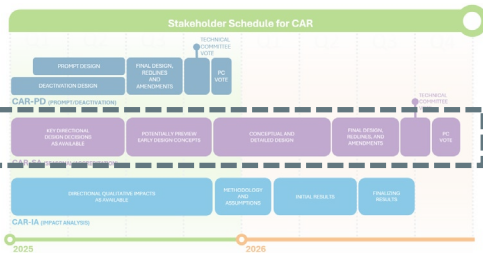


STAKEHOLDER SCHEDULE

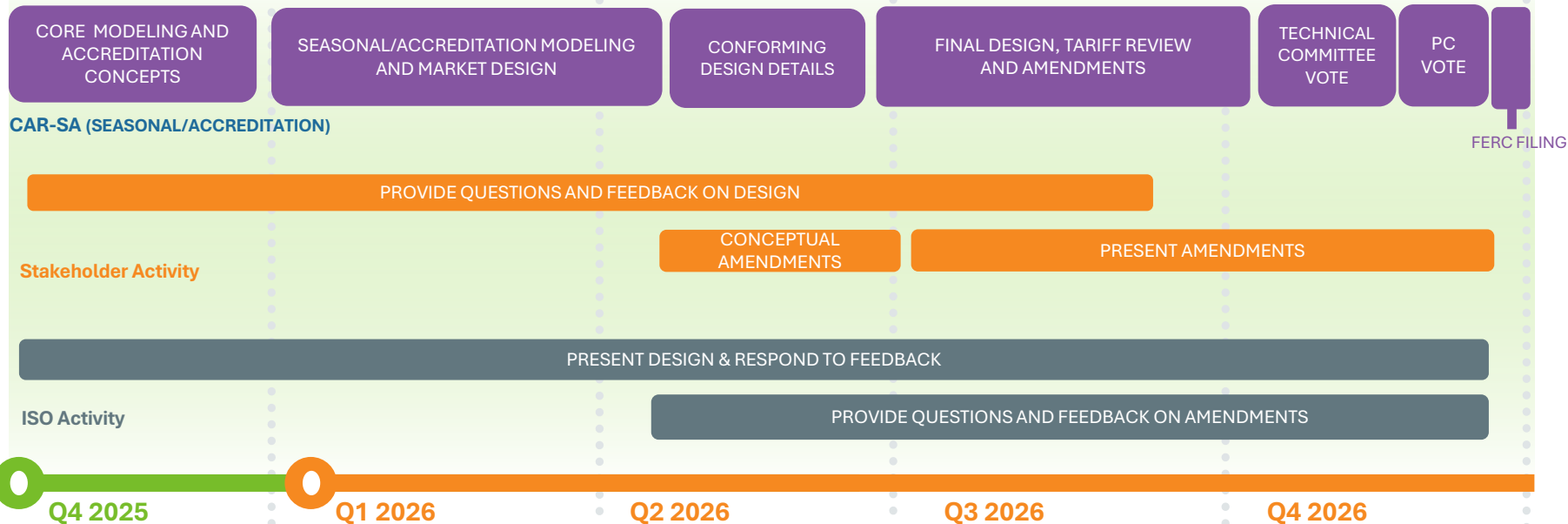


Stakeholder Schedule for CAR





Stakeholder Schedule for CAR-SA



CAR-SA Schedule Projection

- **September**

- MC/RC/TC Timeframe (September 8-10)
 - Follow-up Medley
 - CAR-SA Summary Update
 - Tariff Redline Review, continued discussion
 - Transition Mechanism, continued discussion
 - Resource Accreditation Modeling, continued discussion
 - Market Clearing Impact Assessment, continued discussion
 - Stakeholder Amendments
- Budget and Finance Timeframe (September 22)
 - Financial Assurance Policy and Billing Policy, continued design discussion and Tariff redline review

CAR-SA Schedule Projection (Continued)

- **October**

- MC/RC/TC Timeframe (Oct 6-8)
 - Stakeholder Amendments including proposed Tariff redlines
 - Tariff redlines, continued discussion
 - Transition Mechanism, continued discussion
 - Follow-ups and incremental design updates, as needed
- Budget and Finance Timeframe (Oct 9)
 - Financial Assurance Policy and Billing Policy, continued discussion and Tariff redline review, as needed

APPENDIX



Detailed Sensitivity 2 Results

Summer rMRI Impacts

- This table summarizes rMRI values by resource class for the summer
 - Case 1 values are based on the IA Final Near-Term Base Case. For EL3 and Energy Storage Resources, the values include the proposed EL/ES heuristic adjustment that accounts for the impact from “energy storage resources cannot charge other energy storage resources”
 - Case 2a, 2b, and 2c values do not include the EL/ES heuristic adjustment

Resource Class	Summer MCap	Summer rMRI			
		Case 1	Case 2a	Case 2b	Case 2c
Gas-only	8,006	91.8%	91.9%	92.0%	92.0%
Oil/Dual-Fuel (Thermal)	10,516	82.0%	82.1%	82.1%	82.1%
Daily/Weekly Hydro	1,067	94.8%	95.0%	95.2%	95.2%
Other Thermal (including Nuclear)	3,947	86.4%	86.7%	86.2%	86.2%
Imports	1, 2a: 2,205 2b, 2c: 1,500	91.2%	91.4%	92.6%	92.6%
Oil/Dual-Fuel (EL3)	840	92.0%	91.5%	91.7%	91.7%
Energy Storage Resources	3,877	56.1%	55.9%	55.0%	55.0%
Hybrid (PV + Hydro)	1,053	50.7%	50.7%	50.7%	50.7%
IPR - Wind	2,525	19.9%	19.6%	19.8%	19.8%
IPR - Solar	1,409	24.4%	23.9%	24.8%	24.8%
IPR - Hydro	560	39.4%	39.3%	39.5%	39.5%
IPR - Others	273	79.6%	79.6%	80.0%	80.0%
ADCR	784	25.7%	25.4%	25.8%	25.8%
PDR	6,504	53.0%	53.0%	53.2%	53.2%
System w/o PDRs	1, 2a: 37,060 2b, 2c: 36,355	73.9%	73.9%	73.5%	73.5%

Detailed Sensitivity 2 Results

Winter rMRI Impacts

- This table summarizes rMRI values by resource class for the winter
 - Case 1 values are based on the IA Final Near-Term Base Case. For EL3 and Energy Storage Resources, the values include the proposed EL/ES heuristic adjustment that accounts for the impact from “energy storage resources cannot charge other energy storage resources”, but exclude the proposed the transition-period adjustment
 - Case 2a, 2b, and 2c values do not include the EL/ES heuristic adjustment and the transition-period adjustment

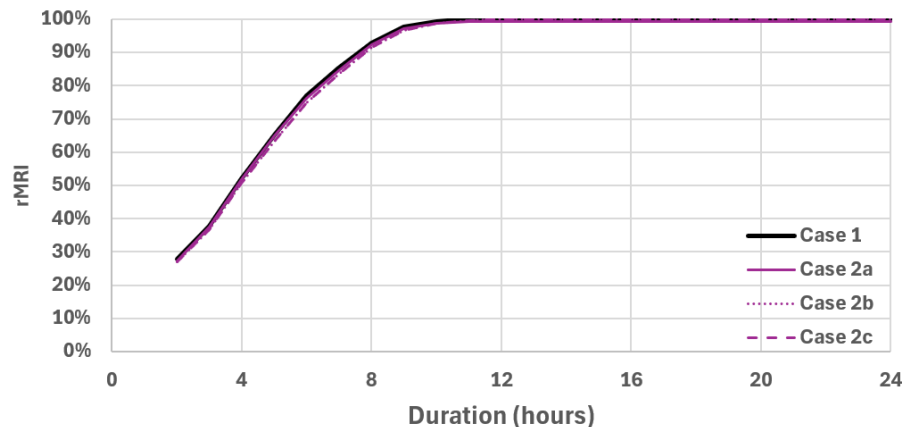
Resource Class	Winter MCap	Winter rMRI			
		Case 1	Case 2a	Case 2b	Case 2c
Gas-only	8,637	90.8%	91.2%	90.9%	91.3%
Oil/Dual-Fuel (Thermal)	11,287	79.2%	79.9%	79.5%	80.0%
Daily/Weekly Hydro	1,060	96.1%	96.3%	96.1%	96.4%
Other Thermal (including Nuclear)	3,968	88.7%	89.3%	88.7%	89.3%
Imports	1, 2a: 1,331 2b, 2c: 386	88.4%	88.6%	89.7%	90.0%
Oil/Dual-Fuel (EL3)	1,019	79.4%	71.4%	71.7%	74.6%
Energy Storage Resources	3,875	24.9%	26.2%	26.4%	29.7%
Hybrid (PV + Hydro)	1,048	25.8%	27.5%	27.6%	28.5%
IPR - Wind	2,525	35.8%	35.4%	35.0%	34.7%
IPR - Solar	1,409	7.0%	7.4%	7.8%	7.8%
IPR - Hydro	560	60.1%	60.5%	60.5%	60.7%
IPR - Others	273	76.8%	76.8%	76.7%	77.0%
ADCR	674	32.1%	32.1%	32.2%	32.2%
PDR	6,186	58.8%	59.8%	59.9%	60.4%
System w/o PDRs	1, 2a: 37,666 2b, 2c: 36,721	69.8%	70.7%	70.0%	70.6%

Detailed Sensitivity 2 Results

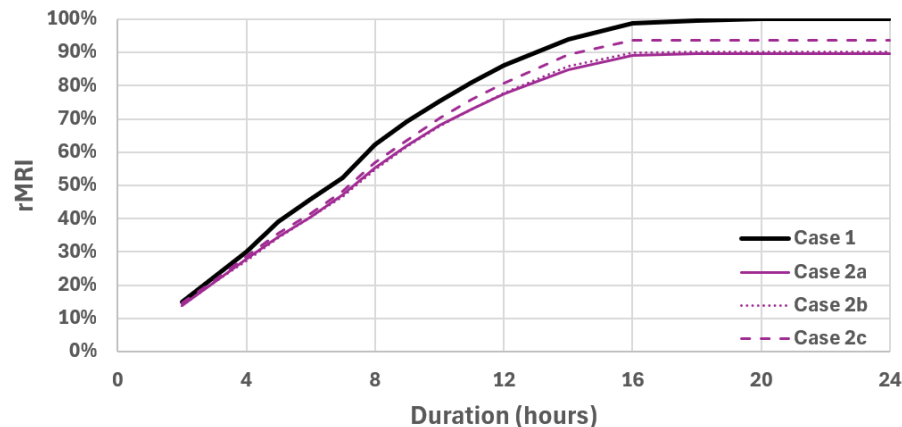
Proxy Energy Limited rMRI Curves

- The graphs below compare the rMRI values for proxy EL3 (energy-limited) resources across all sensitivity cases
 - Case 1 values are based on the IA Final Near-Term Base Case, which include the proposed EL/ES heuristic adjustment that accounts for the impact from “energy storage resources cannot charge other energy storage resources”, but exclude the proposed transition-period adjustment
 - Case 2a, 2b, and 2c values do not include the EL/ES heuristic adjustment and the transition-period adjustment

Summer: Proxy Energy Limited rMRI by Case



Winter: Proxy Energy Limited rMRI by Case



Detailed Sensitivity 2 Results

EL3 and ES rMRI with Heuristic Adjustments

- The table below provide the rMRI values for the sensitivity cases assuming the EL/ES heuristic adjustment is applied to cases 2a, 2b, and 2c

Resource Class		Adjustment	Case 1	Case 2a	Case 2b	Case 2c
Summer	Oil/Dual-Fuel (EL3)	No Adjustment	90.9%	91.5%	91.7%	91.7%
		w/ EL/ES Adjustment	92.0%	92.0%	91.7%	91.7%
	Energy Storage Resources	No Adjustment	55.5%	55.9%	55.0%	55.0%
		w/ EL/ES Adjustment	56.1%	56.2%	55.0%	55.0%
Winter	Oil/Dual-Fuel (EL3)	No Adjustment	67.3%	71.4%	71.7%	74.6%
		w/ EL/ES Adjustment	79.4%	79.6%	79.5%	79.7%
	Energy Storage Resources	No Adjustment	21.1%	26.2%	26.4%	29.7%
		w/ EL/ES Adjustment	24.9%	29.2%	29.3%	31.7%