Capacity Auction Reforms

Continued Discussion of Project Scope

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Capacity Auction Reforms (CAR)

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- The ISO is proposing Capacity Auction Reforms (CAR) that would transition the forward capacity market to a prompt and seasonal market with accreditation reforms
- Today's discussion continues to refine the proposed CAR scope, building from the discussion and feedback provided by stakeholders at earlier Markets Committee and in written comments

Overview of Today's Discussion

- Review stakeholder feedback on potential scope items
- Proposed scope
- Scope items still under assessment
- Items not included in proposed scope

Plan for Developing Scope

- **July**: MC kick off discussions, the ISO outlines project objectives and highlights some key areas of consideration for project scope; stakeholders provide feedback
- **August**: The ISO shares 'straw scope' and design objectives for stakeholder feedback at MC
- **September**: The ISO responds to feedback on its straw scope and potential refinement of scope
- **October**: Review final scope and design objectives
- **October/November**: Target project roadmap and filing schedules

SUMMARY OF STAKEHOLDER FEEDBACK ON POTENTIAL SCOPE ITEMS

Stakeholder Feedback

- Stakeholders provided further feedback on the ISO's straw scope discussed in August
  - In addition to feedback provided at the meeting, written comments can be found here
- Comments touched on a range of items including:
  - Enhancements to the accreditation framework to address various resource types
  - Treatment of tie benefits

PROPOSED SCOPE

In Scope Items Discussed in August

- Core prompt: timing, treatment of new resources, retirement process, activity schedule for a prompt auction
- Core seasonal: define seasons, activity schedule for seasonal auctions, seasonal demand curves, update ‘annual’ features
- Core accreditation: finalize accreditation framework and design, conform to prompt and seasonal
- Gas market constraint and treatment of firm gas

In Scope Items Discussed in August (con't)

- Narrow updates to Net CONE
- Impact analysis
- Offer price formation and mitigation
- Move to sealed bid
- Assess simultaneous clearing
- Data systems and implementation

Further Accreditation Modeling Enhancements

Added to 'in scope' since August MC

- As part of CAR, the ISO plans to assess whether it can make further enhancements to the modeling and accreditation proposal to better align accreditation values with contributions to resource adequacy
- This assessment will include:
  - Profiles for modeling and accreditation values associated with intermittent resources
  - Logic governing modeling of limited energy resources
  - Enhancements to the load model
  - Modeling of different resource types (e.g., DERAs, co-located resources)

Further Accreditation Modeling Enhancements (con't)

Added to 'in scope' since August MC

- The set of enhancements pursued as part of CAR will depend on the results of these assessments with careful consideration of how such enhancements would be expected to perform with regard to the scope objectives
- The ISO will share more information about these items as its assessment of these topics progress

Development of Seasonal Tie Benefits

Added to 'in scope' since August MC

- The CAR project will enhance the RAA model used for tie benefits study to develop tie benefits estimates for a seasonal market, including determination of winter tie benefits values
  - Includes working with our neighbors to enhance our regional model to reflect seasonality
- ISO's thinking regarding its tie benefits framework was summarized in a June memo to the Reliability Committee
  - It is appropriate to continue relying on the reliability contributions of external tie lines in determining the Installed Capacity Requirement. The current methodology to calculate tie benefits for ICR purposes is sound. ISO-NE does not propose to overhaul this methodology as part of CAR.
- ISO does not plan to reassess PFP applicability for tie benefits, as discussed further on slides 26 through 28

Summary: Proposed Scope (*1 of 2*)

Scope Item(s)	P/S/A	Comments
Core Prompt	P	Timing, treatment of new resources, retirement process, activity schedule
Core Seasonal	S	Define seasons, activity schedule, seasonal demand curves, update 'annual' features
Core Accreditation	A	Finalize accreditation framework and design, conform to prompt and seasonal
Gas Market Constraint	S/A	Develop framework, treatment of firm gas
Impact Analysis	P/S/A	Estimate regional cost impacts and revenue affects by resource class, break out key drivers

Summary: Proposed Scope (*2 of 2*)

Bold items added to 'in scope' since August MC

Scope Item(s)	P/S/A	Comments
Offer Price Formation and Mitigation	P/S/A	Cost components in competitive offers, mitigation framework, price impacts
Move to Sealed Bid	P/S	Change auction platform
Assess Simultaneous Clearing	S	Determine if feasible to clear all seasons simultaneously
Data System and Implementation	P/S/A	Update or replace existing data systems used to administer capacity market
Assess Further Accreditation Modeling Enhancements	**A**	**Assess further RAA modeling and accreditation enhancements**
Seasonal Tie Benefits	**S**	**Develop estimates of seasonal tie benefits values**

SCOPE ITEMS STILL UNDER ASSESSMENT

Ambient Temperature Adjustments and Correlated Outages

- The ISO will continue to assess this item with respect to the scope objectives
- While the ISO understands the interest in addressing this topic, it raises technical modeling questions that must be more fully assessed before a decision can be made
- The ISO will provide further information on whether this will be in the project scope as the assessment progresses

CAR Will Include a Novel Approach to Model Correlated Outages from Gas Resources

- Under CAR, a new constraint will reflect limited available natural gas during cold winter periods, consistent with region's fuel infrastructure
- CAR will therefore account for correlated outages from gas generators during the winter in both its resource adequacy modeling and in its capacity awards
  - Under the market constraint approach, rather than being reflected directly in the capacity accreditation values, it will be represented by a constraint on how much total generation from natural gas power plants can be sold in the auction
- More information on the gas market constraint approach was provided in the ISO's January 2024 memo

ITEMS NOT INCLUDED IN PROPOSED SCOPE

Several Items are Out of the Planned Scope for CAR

- Out of scope items identified at August MC
  - Evaluation of alternate modeling software platforms
- Additional out of scope items discussed further in the following slides
  - The treatment of retained resources in the capacity market
  - A broader assessment of the tie benefits methodology
  - Assessing methodologies to account for resource lead times in RAA process
- While these items are out of scope for CCP 19, this does not preclude them from being considered in future capacity market reforms

Treatment of Retained Resources in Capacity Market

- Under the current Tariff, resources can only be retained for local transmission security
- The ISO is not proposing to change the set of conditions under which resources can be retained as part of CAR
- Resources retained for local transmission security are treated as price takers in the capacity market
- The ISO finds that this treatment continues to be appropriate and efficient

Comparison to Resources in an Import-Constrained Zone

- The retained resource provides a locational reliability service that cannot be provided by other resources
- This is similar to an import-constrained zone; resources in the zone are paid a higher price than resources outside of the zone because in addition to contributing to the region's resource adequacy needs, they also provide local reliability benefits to the capacity zone
- When assessing price impacts of treating the retained resource as a price taker, it is therefore informative to compare this price (that is, the price paid to the resources that are not retained) to that which would occur if the ISO instead introduced a new import-constrained zone that only included the retained resource

Capacity Prices for Other Resources are Equivalent

- Resources that sell capacity in an import zone (including those that would not have sold capacity if located elsewhere) are counted as capacity supply when determining capacity awards and prices at the system level
- This means that capacity prices paid to non-retained resources under the ISO's current price taker treatment are the same as would occur if the ISO developed an import-constrained zone to reflect the resource's locational reliability attributes

Quantity of Retained Resource's Capacity Included

- The quantity of retained capacity included as price-taking supply should be based on its expected performance during stressed system conditions
- The resource is expected to operate at its maximum capability during such events and thereby contributing to meeting the region's resource adequacy needs
- This approach is consistent with the MRI-based accreditation framework that will be applied to all resources
  - This expected performance may be different (greater) than the performance necessary to narrowly satisfy the transmission security need
  - However, not considering the resource's entire expected performance would lead to inefficient over-procurements that ignore the full expected contributions of the retained resource

RMR Items for Further Consideration

1. RMR Treatment: CAR Considerations

- The perspective on the prior slide is applicable to the annual market structure, but the outcomes may not be the same under a seasonal market design, where resources may be evaluated based on different seasonal conditions
- The ISO has not yet constructed its seasonal design, and it remains committed and focused on completing that effort for CCP 19 as part of its core CAR scope
- However, after that foundational part of the initial design and filing is completed, the ISO will begin to assess and discuss how reliability reviews will conform to the seasonal commitment periods, including any potential pricing implications

RMR Items for Further Consideration

2. RMR Treatment: Energy Security Considerations

- The logic outlined on the earlier slides is most applicable to retentions for local transmission security, where the reliability need is specific to a localized area
- For energy security retentions, the reliability need that triggers the retention is likely broader and likely could be met by many resources that may not be paid comparably to the retained resources, if the price taker treatment were extended to such retentions
- The ISO does not plan to resurrect those retention provisions; however, if it ever found itself in a future situation where it needed to again consider retaining resources for energy security, it commits to simultaneously assessing and including a different pricing mechanism for stakeholder consideration
  - The ISO's reflection on this item should not be construed as a signal of any current energy security needs in the region

Tie Benefits Methodology: MRI and PFP

- Some stakeholders have requested various changes to the tie benefits methodology, including:
  - Subjecting tie benefits to Pay for Performance (PFP) in a manner similar to other resources
  - Calculating MRI values for tie benefits in a manner similar to resources to determine capacity auction awards

- *Next*: Discuss why the ISO does not plan to pursue either of these changes as part of CAR scope

It is Infeasible to Assign PFP to Tie Benefits

- Resources that sell capacity have their performance measured against their obligation during scarcity conditions
- Tie benefits are a system attribute that reflects the expected contribution from other regions during emergency conditions due to the interties into the region and diversity between the systems
- These contributions are reflected as a decrease in capacity demand with no corresponding PFP obligations

Calculating MRI Values for Tie Benefits to Participate in Auction Clearing

- Tie benefits represent the expected contribution from other regions during emergency conditions
- Tie benefits are modeled in the RAA model to capture the impact of interties' reliability contribution in reducing the Installed Capacity Requirement
- Resources that compete to meet the reliability requirements are assigned MRI values. Tie benefits are not directly competing with resources in the auction to sell capacity

Modeling Resource Start Times for Accreditation

- The ISO's resource adequacy platform, GE MARS, does not consider resource start times
- Assessing changes to the resource adequacy platform would be a significant, multi-year effort that would take resources away from other parts of the CAR effort and jeopardize the ISO's ability to complete CAR in time for CCP 19
- As noted at the August MC, the energy and ancillary service markets provide compensation to resources that can respond to unexpected events that occur in the operational timeframe

Modeling Resource Start Times for Accreditation (con't)

- The Pay for Performance design provides strong financial incentives for resources to be available during stressed system conditions, including events that emerge in the operational timeframe
- Resources that perform well during such events (including flexible resources) will tend to receive positive performance payments, and resources that perform poorly, incur performance charges
- There are no exemptions for resources that cannot respond to an event due to a longer start time
- Provides further compensation for resources that perform well during stressed system conditions

Conclusion and Next Steps

- Determining a fitting scope that ensures project viability and provides certainty to market participants for CCP 19 will require incisive prioritization
- If you have additional thoughts to share after this meeting, please reach out to MC Secretary, James Woods (jwoods@iso-ne.com), by September 20, 2024 to share any additional feedback
- After additional feedback and consideration, the ISO will review the final scope at the October MC meeting and begin discussions of target project roadmap

Questions