

Tradeoffs with Alternative FCM Commitment Horizons



*Discussion on preliminary trade-offs associated with
alternative FCM commitment horizons (prompt/seasonal)*

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About today's discussion

- This presentation is intended to facilitate further stakeholder discussion of the potential tradeoffs between a prompt annual format, a prompt seasonal format, and the status quo (forward annual)
- These are talking points only – the ISO does not yet have a position on this matter
- Today is about honing our collective understanding of what an alternative capacity market horizon might need to look like *if it is to provide the expected benefits implied by advocates*
- Using this objective as a balancing scale, we then put forward some observations; pros, cons, other observations (*i.e.*, the tradeoffs)

Assessing Alternative FCM Commitment Horizons (Prompt/Seasonal) is on the work plan

- October 2022 - Alternative FCM Commitment Horizons (Prompt/Seasonal)
 - In 2023, the ISO plans to begin its evaluation of changes to the FCM commitment horizon under a construct that would replace the FCA with a prompt capacity auction and would structure the capacity product as a seasonal product
 - Stakeholder discussions would take place in 2024
- March 2023 – Alternative FCM Commitment Horizons
 - ISO evaluations of both prompt and seasonal horizons to take place in 2023 with stakeholder discussions to begin in 2024

Today's discussion, prompted by circumstances that superseded the work plan, is an early view into the scope of this assessment (i.e., the desired objective of an alternative capacity market commitment horizon; prompt or prompt seasonal)

MOTIVATION – WHY CONSIDER ALTERNATIVE FCM COMMITMENT HORIZONS?

Primary motivation for reviewing alternative FCM commitment horizons

To improve the accuracy of capacity market auction outcomes; *i.e.*, what is required and what has been procured, in advance of the delivery period(s)

- A *prompt* construct can improve the accuracy by which we estimate resource adequacy (demand) and resource accreditation (supply) relative to the current forward construct
 - However, the potential improvements are a function of what ‘prompt’ means in practice
- A *prompt seasonal* construct can further improve these estimates by adding sub-annual granularity, both in terms of resource adequacy and resource accreditation
 - However, potential improvements are a function of how the prompt seasonal format works in practice (*e.g.*, whether forward or prompt, whether conducted simultaneously or in series)

A secondary benefit to a prompt format may be market and market administration simplification

- Some capacity market processes and functions may be unnecessary in a prompt construct (*e.g.*, annual reconfiguration auctions, financial assurance on ‘new’ resources, etc.)
- Other processes and functions may need to be done outside the capacity market auction (*e.g.*, new resource capacity interconnection rights, existing resource retirement, etc.)
- Yet other processes and functions may be found to require, possibly radical, modification (*e.g.*, capacity zone determination, resource qualification and offer/de-list bid price review)

A forward seasonal format would not provide the same level of improvements

- A seasonal construct would allow for a more precise delineation of resource adequacy and resource accreditation values within a given annual delivery period (*e.g.*, summer vs. winter values)
 - However, a seasonal format does not solve, by itself, the modeling challenges
- Also, a *forward* seasonal construct would have the same drawbacks as the current annual forward (*i.e.*, it would not be as accurate as it is precise)
 - For example, as the system resource mix changes between a forward seasonal auction and the delivery period, as reflected in reconfiguration auctions conducted before the delivery period begins, resource adequacy and resource accreditation values can change, regardless of season

PROMPT VS. FORWARD

Pros, cons, and other considerations

Prompt vs. Forward

- In order to improve the accuracy in resource adequacy and resource accreditation modeling, and in turn the determination of auction parameters (both auction demand and supply values), the auction process would need to be conducted shortly before the delivery period
 - Only in this way are the uncertainties that arise in a forward construct reduced
- Primary area of uncertainty avoided in a prompt format is the known status of each resource before the auction
 - All resources should be operational
 - Retirement decisions should be made before the auction

Pros

1. Improves accuracy of ISO forecasts and planning parameters used in auction

- *Capacity demand more accurately reflects expected conditions during the Capacity Commitment Period (CCP). This will reduce forecast demand error several years out*
- *This benefit could allow for accreditation values that better account for the expected resource mix and (potentially) expected fuel arrangements (though this benefit may be limited if auction is run in spring for following winter)*

2. Eliminates possibility of ‘phantom’ entry

Resources, and their associated transmission system upgrades, must become commercial before participating in the auction thereby eliminating the possibility that a developer sells capacity and then does not complete the project on time or at all

3. Removes several challenging elements of auction administration

These include: non-commercial financial assurance, repowering rules, CPS monitoring and resource terminations, annual reconfiguration auctions. Note: Monthly reconfiguration auctions may remain

Cons

1. Auction results are less relevant to longer-term entry and exit decisions

- *Merchant entry decisions, including capacity interconnection related upgrades, must be made prior to the capacity market auction. If developers expectations about the auction are incorrect, this may yield inefficient outcomes where new resources are built when the system is long (as reflected by low capacity prices) or are not built when the system is short (high capacity prices)*
- *Sharing information about demand, retirements, administering forward internal bilateral markets, etc., will reduce the risk of such outcomes. In practice, this concern may not be substantial given that even in the forward format developers already have to forecast E&AS revenues and capacity revenues for years 2 and beyond, and that the majority of the queue is state policy resources that have contracts or other out-of-market revenues*

2. Reduces time for ISO and Market Participants to react to auction outcomes

Auction results would not be known until shortly before the delivery period begins, potentially limiting the actions available to ISO and market participants to address any concerns related to system or zonal capacity shortfalls (the current construct allows for additional capacity to clear via ARAs, Gap Request for Proposals, etc.), transmission security issues, etc.

3. May increase capacity price volatility

While forward markets generally tend to produce less price volatility, volatility is also dampened to some degree by other capacity market enhancements that the region has made, such as the introduction of sloped demand curves and incorporating expected resource performance into capacity prices [PFP] which ‘flatten’ the demand and supply curves respectively, and are utilized in either format (forward or prompt)

Other Considerations

1. Likely requires development of new retirement process

The retirement process would most likely occur outside of (before) the auction is run, including new notification requirements (farther ahead than prompt auction timing), informational requirements, ISO studies about retirement impact, 'hooks' to IA/CNRC rules, and other complexities

2. Requires changes to assumptions used in long-term planning studies

Assumptions and inputs to system planning processes, such as Capacity Zone determination and longer-term system analysis/studies, based on capacity market parameters (e.g., new offers, de-list bids, forward obligations, etc.) would likely need modification

3. Timing could facilitate more direct demand-side participation

Prompt procurement may better facilitate market rule changes that allow more active market participation from LSEs, which may reduce ISO's role in procuring capacity

4. All participating resources are effectively 'existing'

Any entry costs have already been sunk by the time the auction is conducted, and as such, mitigation would treat them accordingly. However, this brings into question whether there continue to be benefits to using a descending clock auction (DCA) format, or if the region should instead transition to a sealed-bid format

SEASONAL VS. ANNUAL

Pros, cons, and other considerations

Seasonal vs. Annual

As noted earlier in the presentation:

- A *prompt seasonal* construct can further improve these estimates by adding sub-annual granularity, both in terms of resource adequacy and resource accreditation
- However, potential improvements are a function of how the prompt seasonal format works in practice (*e.g.*, whether forward or prompt, whether conducted simultaneously or in series)

What this means:

- If a prompt seasonal auction for the winter season is to reduce uncertainty in resource adequacy and resource accreditation by incorporating a resource's fuel 'firmness' for example, the seasonal auction would need to be run shortly before that winter begins
 - Thus, a prompt seasonal auction for the winter (December through February, for example) would need to be conducted in the fall
- However, the current annual Capacity Commitment Period (or Power Year) runs from each June through the following May
 - Thus, many of the expected benefits from a prompt seasonal format may require that the auctions be run serially or a significant realignment of the Power Year, and a transition plan to get to such a format

Pros

Generally applicable, whether in a prompt or forward format

1. May facilitate more sensible modeling of seasonal constraints

Using separate inputs and assumptions by season may allow modeling to better reflect conditions and inputs that vary by season, where this may include winter fuel constraints, tie benefits, EFORDs, etc.

2. Allows suppliers to reflect their willingness to sell capacity across seasons

Allows sellers to submit separate capacity offers for each season reflecting expected performance and costs associated with delivering capacity separately for each season (differences in summer and winter Seasonal Claimed Capability (SCC) values, higher costs for winter fuel arrangements, different seasonal pay for performance (PFP) risks, etc.)

3. Better aligns (seasonal) capacity obligations with expected performance

Does so in a manner that maintains the integrity of PFP (a challenge when decomposing annual obligations into seasonal components, as proposed under RCA); in doing so, addresses existing concerns about discriminatory treatment across seasons (i.e., solar has no winter obligation)

Cons

Largely implementation risks/challenges

- 1. Requires development of new seasonal demand (and seasonal ICR) parameters**
While it may be conceptually possible to apply the annual MRI-based approach to develop seasonal curves, several important questions would require assessment including how to trade off loss of load expectation (LOLE) across seasons to meet an annual reliability objective
- 2. Deriving demand seasonally may highlight/accentuate existing modeling shortcomings**
The GE MARS model currently used is not well equipped to handle many of the constraints and considerations that are key to modeling seasonal risk, such as energy limits; moving to a seasonal framework may therefore require a change in the modeling tools used and could add significant complexity to the capacity market administration

Other Considerations

Generally applicable, whether in a prompt or forward format

1. Run seasonal auctions for winter and summer CCPs concurrently or serially?

Running summer and winter auctions concurrently may enhance efficiency by allowing contingent offers and dynamically determining the seasonal distribution of risk, but it also likely adds design complexity that would require further assessment; this benefit is likely more modest in a prompt setting where entry/exit decisions are not contingent on auction outcomes

2. Cost of New Entry (CONE) and other FCM parameters may require modifications

Moving to a seasonal procurement may likely require modifications for use in each season

Questions

