



California ISO

Commitment Cost Enhancements Policy Clarification

Straw Proposal

**Public Call
December 10, 2019**

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ISO PUBLIC

Agenda

- Timeline
- CCE3 background
 - Use-limited resources
 - Conditionally available resources (CARs)
 - Run-of-river resources
- Bidding obligations
- Applicability of RAAIM and obligations
- Notification of outages
- Tariff clarifications

Timeline

10-Dec	Stakeholder Call
Jan 6	Comments Due – Straw Proposal and Call Discussion
Mid Jan	Publish Draft Final Proposal
Late Jan	Stakeholder Call - DFP and tariff language
Early Feb	Final Comments Due
March	ISO Board of Governors
April	File Tariff language at FERC

Timeline for previous commitment cost enhancements policy work

- 2015 – ISO began work on the third phase of commitment cost enhancements policy
 - Opportunity cost adder was a critical design element
- 2017 – Tariff language development began
- 2018 – Tariff language development completed
- April 2019 – Policy implemented
 - ISO made BPM modifications shortly after implementation for outage cards relating to CARs and announced that tariff clarifications would quickly follow
- September 2019 – Tariff clarifications published
 - Stakeholders expressed concern regarding implications of clarifications
- December 2019 – Clarifications initiative launched

The objective of CCE3 was to receive greater market participation from use-limited resources

- Resources that have a limited amount of energy, starts or run hours can qualify as use-limited
 - A gas resource with a certain number of starts
 - A storage resource with a pond that provides a limited amount of stored energy
- Concern was ISO might deplete these use limitations before the optimal time for use
- Use-limited resources are eligible for a use-limited default energy bid adder
 - Adders calculated from expected market revenues so that the market dispatches the resources considering the value of use limitations

Opportunity cost example for energy limitations

- Consider a hydro resource that can only be dispatched 3 hours during one day
 - Highest prices are \$70, \$60, and \$55/MWh
 - Resource has ~\$0/MWh marginal operating costs
 - If a resource is dispatched in hour when the price is \$20, it is unavailable for dispatch during a higher priced hour
 - The opportunity cost for a resource to run is \$55/MWh, which is what it would be giving up if it ran during another hour
- Applying opportunity cost adders that ensure are at least \$55/MWh can create an optimal dispatch for the resource driven by market price signals

Applying opportunity cost bid adders allows use-limited resources to provide greater flexibility

- With the appropriate bid adders applied to use-limited resources, these resources will be able to bid into the real-time market 24x7
 - Subject to RAIM if not bidding into the market
 - Remain exempt from RA bid insertion
- Risk: if prices are higher than modeled, then use-limited resources could be used too early
 - ISO offers use-limited resources RAIM exempt outage cards to manage these issues

Not all limitations can be modeled with the use-limited framework

- Some resources are not able to bid into the market during specific times
 - Gas resource that cannot operate in certain hours because of noise restrictions
 - Hydro resource with regulatory water flow restrictions
- These constraints are different and distinct from use limitations
- CARs were created to account for these resources
 - Opportunity costs cannot capture conditionally available limitations

Conditionally available RA resources are required to bid into the market

- CARs are required to bid in full resource adequacy capacity amount
 - Conditionally available capacity is not the bidding requirement
 - Outage cards are available for resources with conditionally available reasons for unavailable capacity
- Applicable RAIM penalties will apply if a conditionally available resource is unable to provide energy to the market because of an applicable condition
 - For example: Noise limitations are in place during an availability assessment hour
- Resources can potentially be use-limited and conditionally available

Run-of-river hydro resources will have similar treatment to variable energy resources (VERs)

- Run of river resources cannot influence their output
 - Resources are generally price takers in the market, but may be able to ramp down in response to price signals
 - i.e. A run of river resource with 10 MW of capacity may be only able to produce 7 MW for a specific hour
- Similar to VERs, run-of -iver resources will bid up to expected (non-ISO generated) forecasts
 - The ISO will not generate forecasts

Run-of-river resources will not be subject to RAAIM

- Run-of-river resources will have a historic output methodology to calculate capacity values for the resources based on past availability
 - Resource that are online more will have higher future capacity values
- These resources can apply for flexible status, if the resource is able to be dispatched
- Going forward, the ISO may consider alternative counting approaches in the RA enhancements initiative
 - New counting conventions may account for low hydro years/low snowpack so that hydro resources are not over-valued

Summary of tariff clarifications proposed for this initiative included in the September paper

- Clarifying section 40.6.4 so that the RA obligation to bid “expected available Energy” applies only to CARs
 - Hydro, pumping load, and non-dispatchable resources must register as CAR if they need section 40.6.4
- Section 40.9.2(b)(1)(C) creates RAIM exemption for run-of-river hydro and Appendix A defines run-of-river
- Section 40.9.3.1(b)(2) clarifies that CARs are assessed RAIM based on their shown RA capacity during AAHs
- Non-substantive clarifying edits in sections 40.9.3.6.4 and 40.9.3.6.5 on RA substitution
- Clarifications in 40.10.4 on flexible capacity processes

Stakeholders expressed concern for local capacity

- Local capacity is shown on a monthly basis and entities are required to show 100% of local needs in every month
 - Local needs are set based on summer peak
- Entities generally do not have the ability to show less than the total amount of capacity for a month
- In months when excess capacity is not needed, entities have the ability to potentially use planned outage cards to effectively derate hydro projects so they align with expected energy availability

SCE and other stakeholders noted that this policy may not accommodate all hydro resources

- Conditionally available and use limited status may not cover all hydro resources
- Some hydro resources are incredibly complex
 - Downstream/upstream flow requirements, environmental standards, water rights, other hydro systems in series may impact a hydro resource
- ISO resource modeling may not be feasible
- Hydro resources also have regulatory hurdles
 - Regulators may desire a hydro resource owner to show or sell all available NQC for the entire hydro resource
 - Today NQC may be close to nameplate for the resource
- Showing full NQC may expose resource to RAAIM

This stakeholder process acknowledges challenges outlined by stakeholders

- The ISO wants to ensure that a workable methodology is implemented for hydro resources in California
 - This initiative will serve as a collaborative platform to develop an alternative counting methodology for hydro resources
- Request stakeholder feedback on potential calculation methodologies and the need for adopting something new
- Any solution developed does not necessarily supersede existing market mechanisms
 - If a new accounting methodology is adopted for hydro resources, the ISO will continue to offer the existing options as well
 - New option may imply a total capacity value, with no RAAIM obligation
 - Existing option may allow for a higher capacity value

SCE proposed a methodology for counting that could accommodate these complex hydro resources

- SCE methodology applies weights to the most recent three years of availability
 - 50% on the most recent, 30% 2 years prior, 20% 3 years prior
 - May be calculated seasonally
- Objective of RAIM is to ensure that the ISO receives capacity shown in the resource adequacy process
 - Ensures reliability on the system
- ISO prefers a counting methodology that includes additional weight on a 'low hydro' year
 - May more accurately reflect the minimum amount of availability from hydro resources
 - Potential alternative: 50% * lowest year, 50% * past 2 years

Next Steps

- Please submit written comments on the straw proposal using the template available on the initiative webpage to initiativecomments@caiso.com by January 6, 2020.