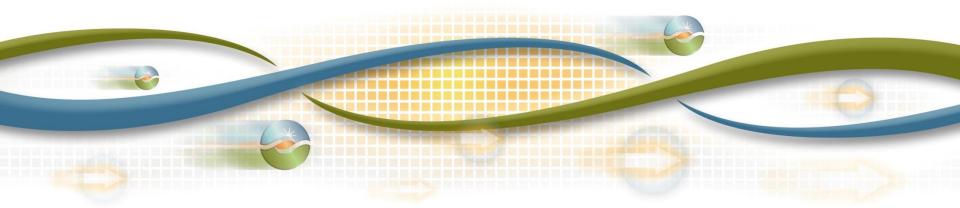


Flexible Resource Adequacy Criteria and Must-Offer Obligation – Phase 2

Karl Meeusen, Ph.D.

Senior Advisor – Infrastructure and Regulatory Policy

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FRACMOO2 Background

- ISO issued supplemental issue paper on November 2016 to expand scope of FRACMOO2
 - ISO received comments from 22 stakeholders
 - Included nine proposals of some type
- The ISO does not believe any of the proposals are capable of being completed in an expeditious manner either due to policy gaps or implementation complexity
- Revised straw proposal focuses on short-term enhancements the existing flexible capacity



The ISO's objective in FRACMOO2 must also consider the impact of SB 350

- SB 350 required the CPUC to
 - Oversee the construction of an Integrated Resource Plan ("IRP")
 - Oversee its jurisdictional LSEs procurement to reach a 50 percent RPS target
- RPS eligible capacity curtailment impact long term resource portfolio
 - Frequently curtailed RPS eligible resources could mean more RPS eligible capacity
 - Mitigating the costs of building incremental RPS eligible capacity means a premium on maximizing RPS eligible energy production



It is prudent to consider a least-regrets approach to short-term modifications to the flexible capacity eligibility rules

- Focus on identifying resource characteristics that help minimize RPS curtailment
- Provide a stronger signal regarding the type of resources needed in the future while more comprehensive changes are developed
 - i.e. Mitigate the risk of uneconomic retirements



Problem statement

 There is a need to send bilateral capacity procurement signals that specifically focus on sustaining fast ramping and fast starting resources in order to achieve a 50 percent RPS mandate while the specific details surrounding the implementation of the state's 50 percent RPS target are determined.



Continued reliance on long-start and OTC resources for flexible capacity has three potential adverse consequences

- 1. Fast ramping and flexible resources may not receive RA contracts needed for long-term financial viability
- 2. Increase the frequency of exceptional dispatch CPM designations
 - May not provide sufficient ramping speed to address real-time operational needs caused by forecast error or forced generation and/or transmission outages
- 3. Slower resource ramp rates means greater Pmin burden
 - Could result in more frequent curtailment of renewable resources
 - Could result in steeper ramps over some time intervals



The ISO is proposing short-term changing to eligibility criteria for flexible capacity resources

- ISO proposed flexible capacity eligibility rule changes
 - Start-up time of less than 4.5 hours and
 - Minimum run time of less than 4.5 hours
- Aligns with the STUC outlook
 - Allows the ISO to commit and decommit resources in the real-time time
- Should ensure a fleet of fast ramping resources is available while minimizing the associated Pmin burden
- 17,042 MW of remaining eligible flexible capacity



The ISO proposal addressed multiple issues identified in the supplemental issue paper

- Specifically, this modification will:
 - Mitigate the minimum operating levels that must be maintained due to start-up and minimum run times;
 - Eliminate the ISO's reliance on long-start resources that are not likely to be available to address real-time ramping needs, and;
 - Establish a faster ramping flexible capacity fleet because most long-start and/or long run-times are also slower ramping resources



Potential long-term enhancements to flexible capacity provisions should attempt achieve basic objectives

- 1. Provide for the efficient retention and retirement of resources needed to maintain reliable grid operations
- 2. Simplify RA procurement and showing processes
- 3. Refine requirements to more closely differentiate particular resource attributes of flexible capacity needed
- 4. Align long-term planning and annual RA processes
- Provide opportunities for internal and external resources to qualify to supply flexible capacity
- 6. Scalable regardless of number of LSEs or size of LSEs



Next steps

- May 8, 2017 Stakeholder meeting
 - May 22, 2017 Comments due
- Complete stakeholder process by Q3 2017
- Board Approval Q2 2018

