

Stakeholder Comments Template

Submitted by	Company	Date Submitted
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The Revised Draft Framework Proposal posted on January 31, 2018 and the presentation discussed during the February 7, 2018 stakeholder web conference may be found on the [FRACMOO](#) webpage.

Please provide your comments on the Revised Draft Framework Proposal topics listed below and any additional comments you wish to provide using this template.

The ISO is in the process of updating the data provided in the Revised Draft Framework Proposal. The ISO will include additional observations for 2016 and 2017. Additionally, the ISO will estimate the impacts of 15-minute IFM scheduling. The ISO will release this updated analysis as soon as possible.

Identification of ramping and uncertainty needs

The ISO has identified two drivers of flexible capacity needs: General Ramping needs and uncertainty. The ISO also demonstrated how these drivers related to operational needs.

Comments:

The Revised Draft Framework Proposal (Proposal) for the Flexible Resource Adequacy Criteria and Must Offer Obligation Phase 2 (FRACMOO2) is a process to develop and update the current flexible resource framework to meet ramping and other dynamic generation needs of the grid. CAISO proposes to establish required quantities of flexible Resource Adequacy (RA) resources to meet large day-ahead ramps, the forecasting error between the day-ahead (DA) market and the fifteen-minute market (FMM), and the forecasting error between the FMM and actual real-time dispatch (RTD). The Proposal refers to these forecasting errors as “uncertainty.”

ORA supports CAISO’s plan to estimate the impacts of moving to fifteen-minute scheduling granularity in the Integrated Forward Market (IFM). Moving to greater granularity should help to reduce the forecasting error between the DA market and the FMM and reduce

the estimate of uncertainty needs presented by CAISO in the Proposal for the fifteen-minute product.

Definition of products

The ISO has outlined the need for three different flexible RA products: Day-ahead load shaping, a 15-minute product, and a 5-minute product.

Comments:

CAISO states that it will develop a DA Imbalance Reserve Product (IRP) as part of its proposed Day Ahead Market Enhancements Initiative to ensure “sufficient real-time bids to meet imbalances in the RTM (real-time market).”¹ The IRP would address changes in the net load forecast due to upward and downward uncertainty.² This product appears similar to the CAISO’s current requirement for regulation resources which are “procured in the day-ahead market for upward and downward balancing needs.”³ In its Proposal, CAISO seeks to include regulation as part of the determination for five-minute flexible capacity need; therefore, CAISO should explain how the proposed IRP, the current regulation requirement, and the proposed five-minute capacity product would overlap or differ. CAISO should also clarify how it plans to distinguish eligibility criteria between the fifteen-minute and five-minute products and how the eligibility requirements differentiate between resources eligible for regulation and resources eligible for the IRP.

Quantification of the flexible capacity needs

The ISO has provided data regarding observed levels of uncertainty, in addition to previous discussions of net load ramps.

Comments:

Changes to Flexible Requirement Formula

CAISO proposes to change the flexible requirement formula to the following:⁴

Maximum Forecasted 3-Hour ramp + $\frac{1}{2}$ Max(MSSC,⁵ 6% of the monthly expected peak load) + ϵ

¹ CAISO Preview of Day Ahead Market Enhancements, February 7, 2018, slide 3.

² Ibid., slides 7-8.

³ Proposal, p. 22.

⁴ Proposal, p. 26.

⁵ MSSC: Most Severe Single Contingency.

The calculation proposed by CAISO to determine the amount of flexible resources requires more clarification. CAISO states that “6% of the monthly expected peak load is approximately equivalent to the sum of three percent of hourly integrated load plus three percent of hourly integrated generation,” which is the new North American Electric Reliability Corporation (NERC) standard for calculating Contingency Reserve.⁶ It is not clear why an approximation of the NERC standard is more appropriate than the actual NERC standard in the flexible requirement formula. Additionally, CAISO should provide its calculation of the 6% of monthly expected peak load and the sum of 3% of hourly integrated load plus 3% of hourly integrated generation to show their approximate equivalence based on historical values and forecasted load and generation. It is important to determine whether the two methods calculate approximate equivalent values as California’s hourly generation profiles change with greater adoption of renewables.

Impacts of fifteen-minute IFM scheduling

The impacts of the proposal in the CAISO’s Day-Ahead Market Enhancements Initiative to change the day-ahead market from 1 hour bid increments to fifteen-minute minute increments must be considered in the FRACMOO2 process. CAISO plans to release an estimate of the impacts of the fifteen-minute IFM scheduling change on uncertainty needs as soon as possible. Stakeholders involved with FRACMOO2, the Day-Ahead Market Enhancements Initiative, and the CPUC RA proceeding would benefit from this information. ORA recommends that after CAISO completes its estimation of the impacts of the fifteen-minute IFM scheduling change on uncertainty needs, that it submit the analysis in the RA proceeding as an addendum to the FRACMOO2 proposal the CAISO plans to submit on February 16.⁷ The impacts of the fifteen-minute IFM scheduling change on uncertainty needs may be significant enough to warrant re-evaluation of the proposed eligibility criteria and estimated requirement quantities. CAISO should incorporate the results of the study into the next draft of this Proposal and consider how it would change the proposed design eligibility criteria.

Description of resources which fit into each flexible product

The Second Revised Flexible Capacity Framework should include a description of typical technologies or characteristics that meet the eligibility requirements for the Day-Ahead Load

⁶ Proposal, p. 26.

⁷ Flexible Resource Adequacy Criteria and Must Offer Obligation –Phase 2 Revised Draft Framework Proposal, CAISO Presentation, CAISO, February 7, 2018, slide 4.

Shape, fifteen-minute, and five-minute products. This information, along with updated information on the need and availability of resources to meet eligibility requirements, would allow stakeholders to anticipate procurement of the types of resources needed to correct deficiencies.⁸ This information would also identify potential issues for future procurement and planning, such as the availability of water for flexible hydro generation or planned and unplanned resource retirements. Understanding what types of resources qualify for different products will aid flexible design and future planning since the types and quantity of flexible resources we have today may not necessarily be available in the future.

Eligibility criteria and must offer obligations

The ISO has identified a preliminary list of resource characteristics and attributes that could be considered for resource eligibility to provide each product. Additionally, the ISO is considering new counting rules for VERs that are willing to bid into the ISO markets.

Comments:

Justification for 60 minute start-up time requirement

CAISO proposes to establish eligibility criteria for the real-time products (the fifteen-minute and five-minute flexible products) based on the LSE's identification of a specific resource providing the capacity and a start-up time of less than 60 minutes.⁹ CAISO explains that the 60 minute requirement meets the minimal time which resources can be committed in the Real-Time Unit Commitment (RUC) process, "ensuring the resource could be available to address real-time uncertainty."¹⁰ However, the justification for the 60 minute requirement remains unclear. The Proposal states that resources with longer start times could address real-time flexible needs, but only if they are committed in the IFM. With CAISO's proposed changes to the IFM market to introduce fifteen-minute granularity and a DA IRP, resources with longer start times can be committed in the IFM and positioned to address real-time needs through CAISO scheduling adjustments. Thus, it is not clear why a 60 minute start-up time would be necessary. If CAISO's goal is to create a "deep pool of economic bids in the real-time market to address uncertainty,"¹¹ the proposed bidding requirement for the real-time products should meet this goal. If CAISO is concerned with the speed at which resources can respond to real-time dispatches, it should define that need and consider a ramp rate requirement.

⁸ Table 4 of the Proposal could be enhanced by this information. Proposal, p. 45.

⁹ Proposal, p. 34.

¹⁰ Ibid.

¹¹ Ibid.

CAISO should also present the impact of adopting the new eligibility criteria for the real-time flexible products. The Proposal provides a calculation showing that the overall quantity of qualified flexible capacity would decrease through these new eligibility rules. The Second Revised Flexible Capacity Framework should include a general description of what types of resources would be disqualified based on the 60 minute start-up time requirement. The 60 minute start-up time requirement could pose issues for future procurement as flexible resources may become unavailable due to drought, regulatory compliance, retirement or other issues. Also, procurement of flexible RA from a smaller, less diverse pool of eligible resources will likely raise ratepayer costs. Any changes in quantity of available flexible capacity must be justified by a reasonable eligibility requirement.

24 hour availability for 75% of Flexible RA

CAISO proposes that 75% of an LSE's flexible capacity should be available 24 hours a day, due to the spread of uncertainty errors over the day and the inability of solar resources to respond to nighttime flexible needs.¹² This is an increased burden from current eligibility requirements, therefore CAISO should revise this percentage based on the results of its study to estimate the impact of switching the IFM from one-hour increments to fifteen-minute increments. Uncertainty errors reach their highest levels during daytime and dusk hours due to solar output and the sheer volume of load.¹³ If CAISO finds that the fifteen-minute increment IFM reduces uncertainty during nighttime hours, then it should consider decreasing or even eliminating the 25% limit on resources without a 24 hour availability.

Lower uncertainty may even obviate the need for a 24 hour availability requirement. Reducing this requirement to fewer hours a day would allow many more resources to meet the need, similar to the current five or seventeen hour must offer obligations of flexible products.¹⁴ The results of this study are critical in determining actual reliability need and the types of resources required to meet that need.

Clarify Eligibility Criteria for Energy Imbalance Market (EIM) and External Resources

In the Second Revised Flexible Capacity Framework, CAISO should clarify whether the requirements for CAISO-internal flexible RA products also apply to EIM and external resources or not. Currently, the Proposal lists registration and other market requirements, but does not address the requirements for resource characteristics, such as a startup time of under 60

¹² Proposal, p. 25.

¹³ Proposal, p. 25.

¹⁴ CAISO Tariff 40.10.6.1.

minutes or a 24 hour economic bidding requirement.¹⁵ Clarification of requirements for EIM and External resources will allow stakeholders to understand how procurement of these resources could meet CAISO’s proposed requirements.

Equitable allocation of flexible capacity needs

The ISO has proposed a methodology for equitable allocation of flexible capacity requirements. The ISO seeks comments on this proposed methodology, as well as any alternative methodologies.

Comments:

Challenges of requiring a 100% year-ahead showing for Flexible RA

CAISO proposes that load-serving entities (LSEs) procure 100% of their monthly needs for year-ahead showings, citing that sufficient flexible capacity is available for procurement to meet the 100% year-ahead levels.¹⁶ However, sufficient capacity is not a justification for changing the current requirement. Currently, Flexible RA procurement requires a 90% showing of requirements for the year-ahead before a 100% month-ahead showing during and throughout the year.

ORA does not support this proposed change. The current 90% year-ahead showing should be maintained going forward to reduce LSE risk and minimize unnecessary ratepayer costs. The current approach allows LSEs flexibility to adjust for load migration which is currently increasing as new Community Choice Aggregators (CCAs) are established and existing CCAs expand. A 100% year-ahead showing would very likely lead to over-procurement which unnecessarily increases ratepayer costs.

The issue of the 90% year-ahead showing was discussed amongst LSEs, CAISO, and others as part of the design for system RA requirements. The CPUC decided that a 90% year-ahead requirement for system RA would grant the utilities some flexibility and “protection against the exercise of market power in the forward capacity markets, a concern noted by many parties, including the ISO. A 90% year-ahead requirement also allows the utilities to account for unusual market conditions.”¹⁷ CAISO proposed and eventually adopted 90% for flexible RA.¹⁸ CAISO has not demonstrated in its Proposal that a 90% year-ahead showing is insufficient to

¹⁵ Proposal, pp. 37-39.

¹⁶ Proposal, p. 32.

¹⁷ Decision 04-01-050, p. 30. http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/33625.PDF

¹⁸ FRACMOO Revised Straw Proposal, June 13, 2013, p. 4 FN 4, available at: <http://www.caiso.com/Documents/RevisedStrawProposal-FlexibleResourceAdequacyCriteria-MustOfferObligations.pdf>

meet reliability needs. Given the absence of evidence that increasing the current 90% year-ahead requirement is necessary to maintain reliability, ORA recommends maintaining the existing requirement to protect ratepayers from over-procurement.

Other

Please provide any comments not addressed above, including comments on process or scope of the FRACMOO2 initiative, here.

Comments:

No additional comments.