



Stakeholder Comments

**Flexible Resource Adequacy Criteria and Must-Offer Obligation  
Phase 2, Working Group Meeting, August 18, 2015**

Submitted by	Company	Date Submitted
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The Office of Ratepayer Advocates (ORA) provides the following comments on the presentations, materials provided, and discussion related to the Flexible Resource Adequacy Criteria and Must-Offer Obligation Phase 2 (FRACMOO2) at the second Working Group meeting held on August 18, 2015.

**Further Analysis is Necessary to Define Needs**

The development of FRACMOO 2 requires further analysis to define specific needs, including quantification of needs and analysis of mitigation measures. Prior to moving forward with the FRACMOO 2 straw proposal, the California Independent System Operator (CAISO) should provide the following: (1) a clearer explanation of the problems related to renewable penetration, (2) fast ramping need analysis including quantification and mitigation measures, and (3) quantification and timing of over-generation impacts on grid performance including CAISO mitigation measures and the impacts of other proceedings, such as the California Public Utility Commission’s (CPUC) Long-Term Planning Procurement (LTPP) proceeding.

The CAISO’s analysis to date fails to adequately support the proposals put forth by the CAISO at the second meeting of the FRACMOO 2 working group. ORA recognizes that it is important to respond appropriately to the changing mix of resources in order to maintain grid reliability, but ORA does not support the proposal recommended by the CAISO at this time.



Prior to adopting changes recommended in the FRACMOO 2 redesign, the CAISO should provide a clearer explanation of the problems that may result from increased renewable penetration. The CAISO focuses on two potential problems - the need for fast ramping flexible capacity, and increasing over-generation on the grid. In order to address the need for fast ramping flexible capacity, the CAISO seeks authority to expand its Capacity Procurement Mechanism to secure this new attribute when necessary. Prior to altering the FRACMOO tariff to account for fast ramping attributes, the CAISO should provide more analysis to quantify the amount of fast ramping generation that is necessary, including the timing of potential needs and an accounting of fast ramping generation that is already available in load serving entity procurement. The CAISO continues to define over-generation as a reliability issue despite acknowledging that over-generation will not be a significant problem in the short term. The FRACMOO 2 initiative does not appear to be the best forum for addressing over-generation issues, which may be addressed outside of the short-term resource adequacy policies and after further analysis of viable options.<sup>1</sup>

The CAISO continues to rely on Long-term Planning Process (LTPP) 2014 model runs to support the over-generation risk, but those modeling results fail to account for all measures available to mitigate or prevent over-generation. Reproduced below (Figure 1: Over-generation mitigation measures) is a table from a 2013 joint CAISO-North American Electric Reliability Corporation (NERC) report discussing contributing factors and corresponding mitigation measures to address over-generation issues. These mitigation measures can be implemented and enhanced independent of a change to the existing interim 3-hour flexibility product.

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<sup>1</sup> The CPUC's LTPP proceeding will soon release a white paper on over-generation that is expected to present a wide array of issues impacting over-generation and a discussion of mitigation options.



**Figure 1: Over-generation mitigation measures**

#	Sources	Mitigation
1	Mismatch between scheduled generation and actual production	Develop a mechanism to update the schedules of variable resources on a five-minute basis for a look-ahead of two hours.
2	More “must-take” generation (combined with other local generation at minimum) than there is system load	Develop operating procedures to curtail “must-take” generation and/or develop incentives for these resources to curtail production.
3	Forecast errors (both for day-ahead and hour-ahead load and for wind and solar energy production)	Develop an optimized forecast for different time horizons.
4	Hourly scheduled imports are fixed during the operating hour regardless of changing system conditions intrahour; e.g., load decreases or VER increases	Introduce intrahour tagging and scheduling; e.g., 15-minute scheduling.
5	Hydro generation running at full operating capacity because of rapid snow melt in the mountains (the water must be released from the reservoirs as must-run generation or the operator will have to spill the water)	Develop operating procedures to effectively and equitably curtail must-run generation and/or developing incentives for these resources to curtail production
6	Distributed energy resources (DER) that are invisible to CAISO creating overgeneration condition when they offset load on the distribution system	Require visibility of DER.
7	Insufficient DEC bids for VERs	Lower bid floor to provide incentives. Apply negative prices to all generation not at verified minimum output.

Source: NERC and CAISO. November 2013. “2013 Special Reliability Assessment: Maintaining Bulk Power System Reliability While Integrating Variable Energy Resources – A joint NERC/CAISO Report.” Page 12, table 1. Available at: [http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC-CAISO\\_VG\\_Assessment\\_Final.pdf](http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC-CAISO_VG_Assessment_Final.pdf).

Both fast ramping and over-generation concerns can be significantly mitigated by operational revisions. The CAISO pointed out in its presentation that the Energy Imbalance Market has limited ability to manage over-generation due to its focus on the short-term, real-time management. For example, at this time, neighboring utilities and system operators continue to commit units independently on the day-ahead basis. Committing units on a day-ahead basis might preclude the ability of these operators to accept excess generation from the CAISO. The CAISO should therefore continue to work to improve the operation of the integrated forward market (IFM) to allow coordinated day-ahead planning, which could lower production costs for all involved.

### **The Southern California Edison Company (SCE) Proposal**

SCE’s alternative proposal to the CAISO FRACMOO 2 proposal deserves further analysis and discussion by stakeholders.



ORA commends SCE for developing its alternative proposal, which keeps the current 3-hour product instead of creating additional products. SCE's proposal simplifies the analysis for determining if and when new products may become necessary. Similar to the existing process for resource adequacy flexible and local capacity studies, upcoming needs would be determined by an annual study while allowing load serving entities to cure deficiencies.

The SCE proposal appears reasonable, but requires further analysis. Further analysis requires a study on the ability of the 3-hour product to meet ramping requirements in intervals as low as 5 minutes in the years 2018-2020, when some of the older steam capacity is still online. SCE conducted their study of the 3-hour product for 2024 and based on the LTPP 2014 database.

SCE proposes that, given the need for long term incentives and solutions, the LTPP proceeding at the CPUC is the more appropriate venue to address the over-generation issue. The CPUC's Energy Division is currently developing a white paper on over-generation, which will be introduced into the record of the LTPP proceeding. ORA agrees that the CPUC's LTPP examination of over-generation should inform future attempts to mitigate any potential over-generation issues.

The CAISO addressed self-scheduling at the workshop, noting that flexible capacity must-offer obligations are required primarily because of the availability uncertainty created by self-scheduling resources. SCE suggests that a requirement for self-scheduled resources to bid into the market does not solve any of the problems with these resources, which are likely constrained by other factors and will simply bid the floor price. SCE is correct that these resources may simply bid the floor price. However, bidding the floor price may provide an incentive for resources that are self-scheduling to resolve some of these non-market issues, such as contractual limitations and environmental limits. Investments to improve the flexibility of existing generators could potentially allow these resources to make economic bids, rather than be constrained to self-scheduling due to operational limitations. The CAISO and other parties should continue to consider methods to provide the proper incentives to self-scheduling resources to avoid generating in hours when the system does not need it.

The SCE proposal for a unified must-offer obligation—serving system, local, and flexibility needs—could be a viable approach, but further detailed information is needed from SCE regarding this approach. It is unclear if such a unified product would generate sufficient flexible capacity in all future years, although early (but limited) data indicates that it would.



ORA encourages the CAISO to provide stakeholders with more data on the grid impacts of self-scheduling.

**Additional Time and Stakeholder Input Is Needed to Develop the FRACMOO 2 Initiative**

More time should be allotted to evaluate both the potential problems and possible solutions prior to revising the current FRACMOO tariff to create a durable flexible capacity program. As noted above, ORA recommends that stakeholders have the opportunity to further examine the SCE proposal. The SCE proposal appears to offer reasonable and relatively simple methods to maintain grid reliability.

ORA urges the CAISO to reconsider its aggressive schedule to develop its FRACMOO 2 initiative. The proposed changes offered by the CAISO may result in significant and possible adverse impacts on load serving entities, generation resources, and the ratepayers. The urgent need to address fast-ramping flexible capacity and over-generation has not been demonstrated, and stakeholders should be afforded adequate time to participate in the development of a durable process. Additional evaluation and analysis of the problems, after first fully accounting for all potential solutions to reducing grid reliability risks due to over-generation, would more likely yield a solution that solves the problem at the lowest cost to ratepayers.

**ORA Recommendations**

In summary, the CAISO, along with the stakeholders, should continue to examine the forthcoming changes in the grid while analyzing all current and projected measures which will impact the integration of new resources. While ORA maintains that it is premature to revise the FRACMOO, if the CAISO decides to move forward without further consideration and input from stakeholders, the SCE proposal appears to provide the most reasonable option at this time.