Comments of the Staff of the Office of Ratepayer Advocates on the CAISO's Draft Flexible Capacity Framework Proposal (November 20, 2017)

Submitted by	Company	Date Submitted
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The Flexible Resource Adequacy Criteria and Must Offer Obligation Phase 2 (FRACMOO2) is a California Independent System Operator (CAISO) stakeholder process to develop a flexible resource framework to serve the ramping and other dynamic generation needs of the California grid. The CAISO's current Draft Flexible Capacity Framework Proposal (Proposal) explores expanding the current single flexible ramping Resource Adequacy (RA) product into three flexible RA products, which the CAISO claims are better suited to meet grid needs. The Proposal states that it is focused on addressing forecast uncertainty which causes the day-ahead market to rely on flexible resources to respond between scheduled energy and actual load. Market participants would be required to procure the proposed five-minute flexible RA and fifteen-minute flexible RA products along with a day-ahead shaping product to meet CAISO-identified market operational needs.[1]

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:

Uncertainty is the forecast error between the day-ahead and real-time market processes.[2] CAISO proposes to introduce a fifteen-minute flexible product and a five-minute

[1] Proposal, p. 4.
[2] Ibid., p. 12.

flexible product to address forecast uncertainty.[3] The two products would work in concert with a high-volume day-ahead 3-hour net load ramping product to allow the day-ahead market process to adjust to actual flexible need. Although the forecast uncertainty issue is described in the Proposal, it remains unclear whether the current flexible RA product or other market processes are unable to address the issue. CAISO should provide analysis demonstrating that current resources are unable to be dispatched effectively, or are otherwise unsuitable to meet future flexible need.

Creating new must-offer obligations for the existing fleet will decrease the amount of energy resources available to the energy market. This decreased energy supply may lead to increased energy prices since there will be fewer energy offers made. New flexible RA requirements could have significant impacts on rates. Therefore, in the next iteration of this Proposal, CAISO should demonstrate that the proposed products are cost-effective and necessary to address specific reliability problems.

Quantification of the flexible capacity needs

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

Comments:

CAISO proposes to calculate flexibility needs to include 50% of the maximum observed upward uncertainty between the Integrated Forward Market (IFM) and the Fifteen-minute Market (FMM), which from June 2016 to October 2017 ranged from 2,673 megawatts (MW) to 4,331 MW.[4] The 50% amount of maximum forecasting error represents a fair approach to account for typical levels of uncertainty since it captures roughly the average forecast error.

It is prudent to use recent data to calculate the forecast uncertainty error amount, but the monthly error ranges of the past decade should be analyzed in order to detect any trends of increasing uncertainty or to identify months or seasons that tend to have low or high uncertainty. This data would allow CAISO to estimate if future adjustments to flexible quantities may be necessary and understand if seasonal or monthly flexible quantity requirements may be a better solution than annual amounts. This data along with CAISO and stakeholder recommendations should be presented in the California Public Utilities Commission's (CPUC) RA proceeding in order to inform and coordinate consideration of any present or future changes to flexible capacity requirements.

[3] Ibid., p. 4.
[4] Ibid., p. 22.

During the November 29 stakeholder discussion, Southern California Edison Company (SCE) pointed out that it is unclear if the forecast error range data in the Proposal compares hour-long day-ahead increments against fifteen-minute increments prudently.[5] ORA supports clarification on this matter, and proposes that the day-ahead forecast for each hour should be broken down into fifteen minute incremental averages between each hour and the next. This would allow an apples-to-apples comparison for calculating the forecast error.

The calculation of forecast uncertainty may lead to new requirements and increased procurement by load-serving entities (LSEs), impacting ratepayer costs; existing fast-ramping resources that can provide flexible capacity may become more valuable and costly to procure. However, the Proposal currently only provides stakeholders with one opportunity to comment on the calculation methodology that CAISO selects before the Proposal is formally introduced to the CPUC RA proceeding.[6] CAISO anticipates that portions of this Proposal will be integrated into the adopted 2019 Flexible Capacity Requirements (FCR), but it is critical that stakeholders are able to discuss and analyze the impacts of different calculation options before the Proposal is considered for adoption by the CPUC's RA program to ensure it is feasible to implement and costs will be anticipated. CAISO should modify the current stakeholder engagement plan to facilitate effective discussion of the Proposal once precise methodologies, such as the calculation of uncertainty, are included.

Eligibility criteria and must offer obligations

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. Additionally, 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:

For the five-minute flexible RA product, the Proposal considers whether a 24/7 must offer obligation or a complementary day-time only product would be optimal.[7] As with use-limited resources, there is already a market structure which allows resources to supply substitute RA capacity when an obligated resource is unable to deliver. CAISO should adapt the Proposal to use this existing substitute RA market structure to allow LSEs to meet their five-minute product obligation through substituting resources. This would increase the amount of

[5] This calculation leads to the data shown on Tables 1, 2, and 3 of the Proposal, p. 21-22.
[6] According to the stakeholder engagement plan, Ibid., p. 5.
[7] Ibid., p. 26.

resources eligible to provide flexible capacity and avoid the need to create an additional five-minute product.

The Proposal discusses some additional market processes that may be pursued parallel to the FRACMOO2 Proposal, including unbundling the Effective Flexible Capability (EFC) from the Net Qualifying Capacity (NQC) of Variable Energy Resources (VER).[8] This would allow solar or wind resources to offer their EFC, which may be their full nameplate capacity, to the market in order for it to be curtailed or otherwise controlled to act as a flexible RA resource. This would potentially increase the amount of quick-ramping flexible resources on the grid, but it will be difficult to evaluate the capacity costs and benefits associated with this increase. The VER would have to be curtailed from high to low generation to provide downward flexible RA, or initially dispatched below full output to provide upward flexible RA. The cost an LSE must pay a contracted VER resource in order to curtail it will likely have to be the same price paid as if the VER was operating at maximum output. The LSE would also lose the value of Renewable Energy Credits (RECs) while the VER is curtailed. ORA recommends that these additional market processes should be considered only if they are cost-effective for ratepayers.

Equitable allocation of flexible capacity needs

Equitable allocation of flexible capacity needs is a critical element of a new flexible RA framework. The ISO seeks comments on potential allocation methodologies.

Comments:

The Proposal will require alterations to CAISO Tariff 40.10.2 which outlines the allocation of flexible capacity needs. FCR allocations to specific LSEs should remain the responsibility of the corresponding Local Regulatory Authority (LRA).

CAISO currently determines flexible capacity needs as the average of the LRA's jurisdictional LSEs change in load, minus VER output during the five highest three-hour net-load changes in the month.[9] The CAISO Proposal suggests that it may be prudent to alter the tariff to allocate FCRs according to flexible consumption/need rather than load. ORA supports further discussions to consider ways to allow new flexible RA products to function optimally. Any changes to allocation methodologies should be made in concert with full implementation of new flexible RA products.

[8] Proposal, p. 28.
[9] See CAISO Tariff 40.10.2.1, available at: http://www.caiso.com/Documents/Section40_ResourceAdequacyDemonstrationForAllSCsInTheCAISOBAA_asof_Mar10_2017.pdf

Changes to allocation methodologies may significantly re-distribute flexible capacity needs between California's LRAs at the same time when the cost of procuring flexible resources is likely to increase as a result of this Proposal. Comprehensive study of the ratepayer impacts of this Proposal must be conducted if future Proposal drafts introduce any re-allocation in order to anticipate and justify those impacts. As CAISO's draft 2019 FCR Report is due to the CPUC on March 16, 2018, it is unlikely that sufficient study and analysis of a new allocation approach can be completed in time for implementation in the 2019 RA year.

Other

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

Comments:

The proposed three-product design and parallel market design changes require further development and a demonstration that they are cost effective, superior to alternative solutions and necessary for CAISO to meet its operational needs. The current stakeholder engagement plan states that the draft final proposal will be posted in late January, followed by a stakeholder meeting in early February and comments in mid-February. Coordination with the CPUC's RA proceeding would follow, likely with an opportunity for stakeholders to comment on the Proposal at least once more. CAISO stated at the November 29 discussion that some preliminary measures of this Proposal may be integrated into the 2019 RA year, followed by further implementation of the Proposal for the 2020 RA year. CAISO has not demonstrated that these proposed flexible RA products are necessary to maintain reliable operation of the grid in 2019, so CAISO should provide more time for development of the Proposal through the stakeholder process. This process should include calculation of the required quantities and eligibility factors of each proposed new flexible RA product. Continuous stakeholder development and coordination with the CPUC will support the successful implementation of any necessary changes to the flexible RA program for the 2020 RA year.

In addition, the market design changes that CAISO is considering may have significant impacts on the proposed flexible RA products. As a result, the market design changes deserve more explanation than the Proposal currently provides. Shifting the day-ahead process from one hour increments to 15-minute increments, unbundling VER EFC from NQC, and enhancing a VER's ability to act as a flexible RA resource could result in significant market changes and may reduce flexible capacity needs. CAISO should consider a timeline for development and implementation of these changes that occurs prior to, or at a minimum parallel to any changes to the flexible RA product.

Estimated quantities of each flexible RA product and their characteristics should also be included in the next draft. LSEs may have difficulty procuring sufficient amounts of the five or fifteen-minute product from their existing flexible portfolio depending on the yet-to-be-determined eligibility criteria. Smaller LSEs must also be able to anticipate procurement problems if they have no appropriate resource in their fleet to meet the requirements of a five-minute product which may have intertie restrictions. California may also be hosting a number of new LSEs in the coming years, and the Proposal must ensure that newcomers have access to procurement of products necessary to comply with new flexible capacity requirements.

Lastly, CAISO should develop and post a schedule through 2018 in order to plan coordination and study of the FRACMOO2's proposals. The definition of products and a demonstration of need are required in order to coordinate possible implementation and to maximize ratepayer value.