Stakeholder Comments

Flexible Resource Adequacy Criteria and Must-Offer Obligation Phase 2, Working Group Meeting, July 22, 2015

Submitted by	Company	Date Submitted
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The Office of Ratepayer Advocates (ORA) provides the following comments on the Flexible Resource Adequacy Criteria and Must-Offer Obligation Phase 2 (FRACMOO2) Working Group meeting held on July 22, 2015.

Downward Flexible Capacity Product

ORA questions the need for a downward capacity product. Clearly, there is a valid concern about overgeneration created when demand on the grid exceeds net load. However, numerous tools currently exist to address overgeneration and changes currently taking place in the energy market will also help mitigate the problem.

ORA agrees with a number of stakeholders' comments[1] on the California Independent System Operator's (CAISO) June 25, 2015 Issue Paper that the purpose of Resource Adequacy (RA) is to ensure that enough physical capacity exists to serve customers and to reliably operate the grid. Overgeneration is not primarily a reliability issue but a result of changes taking place in the energy market to comply with the State's Renewables Portfolio Standard (RPS) policy goals. Even if net load in the real-time market (RTM) drops enough for significant overgeneration to occur, the CAISO has time and tools to curtail generation before any reliability problems occur. Moreover, as detailed below, current California Public Utilities Commission (CPUC) and

[1] SCE Stakeholder Comments, July 13, 2015; SDG&E Stakeholder Comments, July 13, 2015.

CAISO initiatives and changes in the energy market address overgeneration and renewable integration into the grid. ORA recommends that the CAISO focus on resolving the overgeneration concerns by utilizing the existing market framework instead of creating new RA capacity procurement obligations for Load Serving Entities (LSEs).

- *The benefits of Energy Imbalance Market (EIM) should be considered and optimized.*

There are economic, reliability, and renewable integration benefits associated with the EIM. Participation of various entities in the EIM offers geographical diversity of load and resources and contributes to resolving the problem of renewable overgeneration and curtailment within the CAISO's balancing authority area. According to the Benefits for Participating in EIM 2015 Q1 Report:[2]

> Included in the EIM benefit is the avoided renewable curtailment in the ISO. This occurs when a renewable resource is supporting the transfer from the ISO to PacifiCorp such that without the EIM the renewable generation in the ISO would need to be curtailed. In addition to the cost saving benefits that is quantified in the report, avoided renewable curtailment may have additional benefit in reducing greenhouse gas emissions and renewable credits. The the [sic] avoided renewable curtailment volume for Q1 2015 was 8,860 MWh.

At the moment, the only entity participating in the CAISO EIM market is PacifiCorp. However, on April 16, 2014, CAISO filed an Energy Imbalance Market Implementation Agreement with NV Energy at FERC. NV Energy is expected to join the EIM market as a participating entity by the end of this year. Similarly, the CAISO filed EIM Agreements at FERC to add Puget Sound Energy and Arizona Public Service. Both entities are expected to enter the EIM market in 2016. The expansion of the EIM market to other geographically diverse areas of Western Electricity Coordinating Council should help address the current challenges of renewable integration.

[2] http://www.caiso.com/Documents/PacifiCorp_ISO_EIMBenefitsReportQ1_2015.pdf, pp. 7-8.

- *ORA supports further discussion to address the limited amount of capacity economically bidding into the RTM.*

The CAISO's Department of Market Monitoring (DMM) Q1 2015 Report on Market Issues and Performance[3] reveals a significant decrease in the amount of inter-tie bids offered into the RTM and a corresponding increase in the volume of self-scheduled intertie transactions with most intertie import bids being self-scheduled in the period between May 1, 2014 and March 31, 2015. However, the DMM Report does not provide any insight as to why there was a substantial decrease in real-time imports nor an explanation for a significant decrease in economic import bids overall and relative to the total imports. Similarly, the CAISO Staff were not able to provide an explanation during the July 22, 2015, FRACMOO2 Working Group meeting.

ORA agrees with the CAISO that 15-minute imports, if economically bid at the interties, can help the CAISO more readily address overgeneration issues. ORA supports further development of the CAISO's intertie proposal. However, ORA recommends additional analysis and data are needed to help stakeholders assess importers' preferences (and reasons for the significant shift in import bidding after May 1, 2014) for self-scheduling rather than economic bidding in the RTM.

- *More information is needed on the causes of negative price trends in the RTM.*

In both the June 25, 2015 Issue Paper and the July 22, 2015 Working Group presentation, the CAISO discusses the increasing frequency of negative prices in the RTM. It would be valuable for the Working Group to gain a better understanding of the causes of these price trends. Negative prices in the RTM could be caused by transmission constraints, inflexible self-scheduled imports, or high minimum operating levels at existing steam units. The increasing retirements due to Once-Through Cooling (OTC) rules and the increasing participation in the EIM may help alleviate this issue. Furthermore, the CAISO should also state when it is estimated that the need for new flexible RA products and revisions will be necessary. Although there are negative prices in the RTM today, it is unclear if or when negative pricing events will have reliability implications. In and of itself, negative pricing is not a reliability issue.

[3] http://www.caiso.com/Documents/DMM_Q1_2015_Report_Final.pdf, pp. 27-28.

- *Further analysis and data are needed to determine whether the current tools CAISO has are sufficient to address overgeneration.*

CAISO's Tariff 7.8, Management of Overgeneration Conditions,[4] lists five steps from lowest to highest priority that the CAISO will undertake to manage overgeneration conditions. The CAISO should present data on which steps were utilized in recent years, the number of overgeneration conditions addressed by each step, and the magnitude of each overgeneration condition managed by Tariff 7.8. In particular, the analysis should focus on the overgeneration events where the CAISO instructed scheduling coordinators to reduce either generation, imports, or both (Tariff 7.8.4) and instances where the CAISO issued mandatory dispatch instructions for specific reductions (Tariff 7.8.5). These data could indicate that the effectiveness of previous steps and their ability to impact overgeneration has already been exhausted.

- *Initiatives adopted by the CPUC may help minimize the impact of overgeneration.*

Pursuant to the CPUC Decision 15-07-001, PG&E, SDG&E, and SCE are directed to file a residential rate design window application no later than January 1, 2018 proposing time-of-use (TOU) rates for residential customers to be adopted in 2019.[5] With default TOU rates set to become the norm in the near future, rates and hours may be developed using lower prices and incentives to drive customers to shift electric consumption to "super" off-peak hours where overgeneration is likely to be most pronounced. Increased utilization of TOU rate structures in the near future may reduce some of the need for additional flexibility constructs.

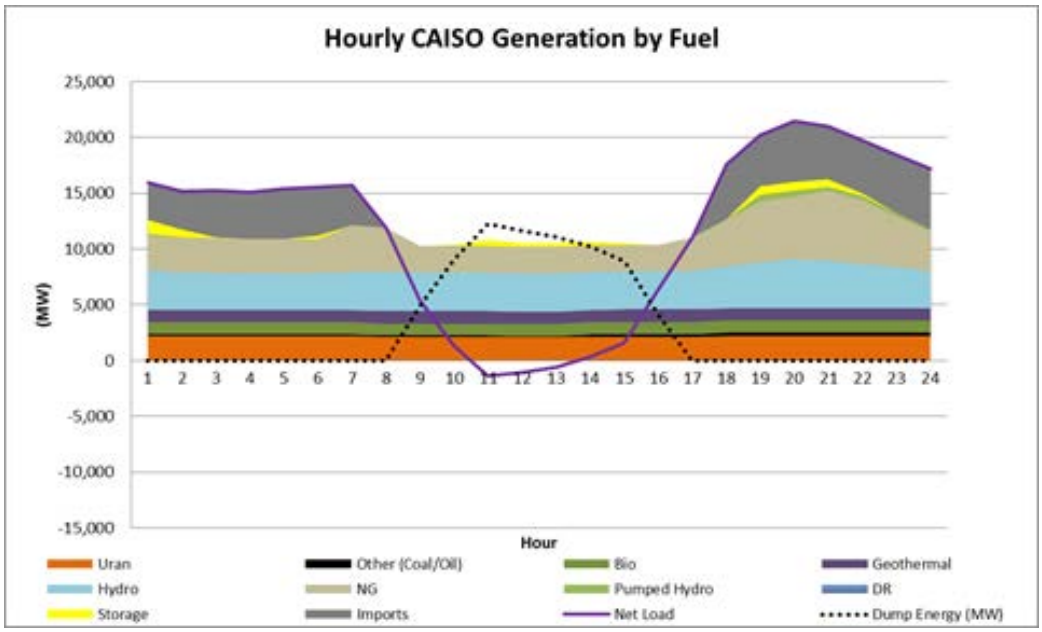
- *The CAISO's data on ramping need in the March 24, 2024 Trajectory Scenario does not account for net exports.*

The CAISO asserted in the 2014 LTPP proceeding that the need for flexible capacity grows as the fraction of variable renewable energy on the grid increases.[6] The 2014 LTPP Trajectory Scenario did not, however, consider the full range of options to manage renewable integration. Curtailment (or overgeneration in the scenarios that did not allow curtailment) was quite small overall in the Trajectory Scenario, but represented a significant number of springtime hours in the 40% RPS Scenario. However, these scenarios assumed no net exports of energy

[4] http://www.caiso.com/Documents/Section7_SystemOperationsUnderNormalAndEmergencyConditions_Apr24_2015.pdf.
[5] D.15-07-001, OP 9-11.
[6] R.13-12-010, Phase I.A. Direct testimony of Dr. Karl Meeusen on behalf of the California Independent System Operator.

from the CAISO. Removal of the no net exports constraint would substantially minimize, or even wholly eliminate, the incidence of these hours, as was demonstrated by ORA's analysis using the LTPP PLEXOS model. The figure below, from ORA's LTPP PLEXOS modeling analysis shows the hourly generation on a spring day in 2024 without any constraints on net exports.

Figure 1: Hourly generation from PLEXOS on 3/24/2024. 40% RPS (with net exports)



For the reasons discussed above, ORA does not agree that overgeneration is a reliability issue but is rather a result of changes taking place in the energy market to comply with the State's Renewable Portfolio Standard (RPS) policy goals. Even at times when overgeneration will pose challenges in the RTM, the CAISO should have ample time and tools to curtail generation before any reliability problems will occur. Finally, expansion of the energy imbalance market, the CPUC's adoption of TOU rates in 2019, and efforts to address the limited amount of capacity that is economically bidding into the RTM will help address overgeneration and renewable curtailment. Therefore, ORA recommends that the CAISO focus on resolving the overgeneration concerns by utilizing the existing market framework instead of creating new RA capacity procurement obligations for LSEs.

Steep One Hour Ramping Needs

The July 22, 2015 Working Group presentation includes a section entitled "Assessing the ability to meet steep one hour ramps".[7] The CAISO identifies an increased need in 2024 for ramping in single hour periods within the current three hour daily maximum ramp supplied by the flexible capacity product through mandatory RA obligations. The CAISO notes that a subset of flexible capacity must have high ramp rates to address the steepest hourly ramp periods. Additional tools are called for to address this concern. Ramping speed was contemplated in the original FRACMOO initiative. The FERC approved tariff[8] adopted a flexible capacity study methodology and must offer obligations leading to flexible LSE obligations and approved a reassessment in 2016 to assess data from the first year of flexible requirements. ORA appreciates the CAISO's early studies ahead of the time frame mandated by the FERC, but questions the need to take action ahead of an assessment of the first full year of flexible capacity data. The CAISO proposes to use a simple but conservative approach of assessing the ramping capabilities of ramping resources. It is important that ramping need assessments for 2024 take into account reasonable projections of all the rapid changes that may impact future flexible capacity needs. The studies should be completely transparent to stakeholders and adjust for a 2024 grid that will include an expanded EIM, more energy storage, improvements in wind and solar technologies, more dispatchability of renewables, increased capability of demand response to meet grid challenges, and a variety of market mechanisms both under development and projected for the next ten years.

In comments on the CAISO's June 25, 2015 Issue Paper, SCE offered well-reasoned opposition to a new one hour flexible ramping obligation for LSEs. While the CAISO did not propose a one hour product in the first Working Group meeting, the presentation did note that the CAISO could use backstop procurement to meet a one hour need. It is not clear that the current FRACMOO tariff allows for backstop procurement of the specific flexible product to meet one hour needs or to apply an appropriate cost allocation methodology. ORA considers it premature to consider modifying backstop procurement ahead of a more complete assessment of ramping needs.

[7] CAISO, "Flexible Resource Adequacy Criteria and Must-Offer Obligation – Phase 2", July 22, 2015, pp. 50-54.
[8] FERC Order on Tariff Revisions, FERC Docket No. ER14-2574.

Coordination with CPUC Resource Adequacy Proceedings

The July 22, 2015 Working Group presentation includes several issues which should be coordinated with CPUC's RA proceeding. Changes to the existing FRACMOO tariff will affect the CPUC's legislatively mandated RA program. The CAISO states that the current FRACMOO2 initiative will result in final CAISO Board approval in May of 2016; however, the CAISO's proposed schedule does not allow time for consideration of modifications to the CPUC's RA program in a stakeholder process ahead of next year's mandatory June RA decision. Other essential areas of coordination between the CAISO's FRACMOO2 initiative and CPUC's RA proceeding include: new LSE flexible capacity obligations, inflexible capacity RA allowances, and changes to Effective Flexible Capacity and Net Qualifying Capacity counting methodologies.