

Cogentrix Energy Power Management, LLC
Comments on the September 26, 2017 Flexible Resource Adequacy Criteria and
Must Offer Obligation Working Group Meeting
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October 10, 2017

Summary on Initiative Direction

Cogentrix Energy Management, LLC (Cogentrix) is pleased to submit these comments on the September 26, 2017 Flexible Resource Adequacy Criteria and Must Offer Obligation (FRACMOO2) Working Group Meeting. The data provided in the meeting presentation regarding hourly and intra-hour ramps and the associated challenges facing grid operators, particularly data revealing that consistently over 40% of the maximum monthly 3-hour ramp occurs in the first hour, presents a compelling case for change. As California advances toward a 50% renewable grid, the challenges are due to become more acute.

One of the central objectives of this Stakeholder Process is to develop market signals that ensure the efficient retention and retirement of existing resources. CAISO has made clear their preference for the retention of flexible resources. Cogentrix supports the development of a market product that retains flexible generation, incentivizes generation to increase its flexibility and encourages the orderly retirement of assets that lack the flexibility attributes required for continued renewables integration.

Cogentrix highlights that most stakeholders recognize and support the need for a flexible grid that is able to respond to changing conditions across seasons, days, hours and weather conditions. Cogentrix encourages the CAISO to avoid the risk of “analysis paralysis” and moving forward with a paradigm that will achieve the universally recognized goals of reducing greenhouse gas emissions from the electric sector while ensuring reliability.

Considering the delays experienced in this process, which is now not expected to affect the market until the 2020 RA proceeding, Cogentrix reiterates its call for urgency and CAISO’s development of flex definitions and determination of resource attributes necessary for reliability. We highlight that the pace of this process already sends unintended and counterproductive signals to the market.

Another concern that Cogentrix reiterates is the desperate need for coordination between the California Public Utilities Commission (CPUC) and the CAISO. To ensure the success of any flexible capacity framework, coordination with the CPUC’s Resource Adequacy proceeding is critical. The CPUC is primed to make overhauls to the RA process in the 2019 RA proceeding, so

it is critical that this process produce meaningful recommendations or CPUC and CAISO RA policy may begin to diverge.

Presentation Comments

Cogentrix notes that certain stakeholders, despite recognizing that inflexible generation is poorly suited for the needs of the California grid, have attempted to delay this process by continually claiming the need for more analysis. The data provided by CAISO, as system operator and the entity responsible for grid reliability, provides a solid case that change is necessary. Cogentrix encourages all stakeholders to work toward a “least regrets” solution to ensure generation best fit to serve California’s future remains economic and available.

- I. Reliability need - ramping capability
 - a. Overview – slide 9 states there is an increased need for ramping capabilities and increased speed. Cogentrix concurs and has promoted proposals that would exclude longer start generation and shorten the start time for Flex Capacity. The slide also mentions that a Flexible RA conceptual framework is needed that provides the CAISO “access” to flexible capabilities of the RA fleet to meet variability, uncertainty and the ramping needs of the system. Cogentrix supports the CAISO’s assertion and believes that the data provided, specifically with regard to ramping intervals on slides 11 through 14, demonstrates a need for flexibility in a sub three-hour bucket(s).
 - b. Preliminary assessment of Multi-hour and Intra-hour ramping needs – slides 11 through 29 all point to the indisputable fact that the size and frequency of the three hour, hourly, and intra-hour ramps are increasing each year. Cogentrix supports the CAISO in acquiring the proper tools to manage these ramps as California moves towards and beyond the 50% RPS. If the ramps cannot be managed through generation flexibility both up and down, then solar curtailment becomes the tool at CAISO’s disposal. Solar curtailment is the worst case scenario for ratepayers and the state’s GHG reduction objectives.
 - c. Summary and Recommendations from Initial CAISO Analysis – slide 36 states that one of the key findings is the need for speed, which will continue to increase over time. Again, it is important to underscore how speed is measured. In comments on the CAISO November 9, 2016 Supplemental Issues Paper, Cogentrix submitted a metric to measure speed:

“Cogentrix agrees with the ISO that the best way to mitigate reliability risks and wide-spread renewable curtailments is to ensure the procurement of fast response assets that the ISO can reliably call upon to meet intra-hour net ramping requirements. Large single hour net loads must be addressed by units that can provide the best absolute ramping speed, including start-up time, to reach PMin. Cogentrix notes that measuring ramp rate on a MW per minute basis without considering start-up time is flawed because the system will be incorrectly optimized based on the scale of units rather than the responsiveness of units. As an example, larger units with longer start times will be dispatched ahead of smaller units with faster start times so that the larger units can ramp off of PMin at a later point in time. This could lead to out of merit dispatch ahead of the ramping need, a risk of over-generation once the larger unit is synchronized to the grid, and excess GHG emissions. To address this inaccurate signal, Cogentrix recommends measuring ramp rate as a percentage of the total capacity per minute, rather than the MW per minute calculation currently used. Measuring ramps in such a way ensures that units capable of the fastest ramp speeds on an absolute basis are prioritized. The concept is related to start time for fast start units, since a 15 minute start is equivalent to a 6.67% per minute ramp rate from cold versus a 0.56% per minute ramp from cold for a 3 hour start. Again, units that are able to ramp to PMin (or even PMax) from cold within a few minutes, an attribute that is highly beneficial for managing large ramps, should have that flexibility recognized in the definitions and should be prioritized over units that are unable to achieve fast ramping until after a multi-hour start.”

II. Market need - signals

- a. Slide 5 states that the new RA program needs to provide signals to help ensure the efficient retention and retirement of existing resources. Cogentrix submits that the signals to retain existing resources need to ensure the retention of flexible resources; as such, the rationalization of the thermal fleet is best accomplished through the tightening of eligibility criteria for flex capacity. Multiple year (3-5 years) RA requirements will further enhance the certainty of reliability, while perhaps more importantly sending signals for the target dates of orderly retirement to resources that fail to contract in out years.
- b. Overview of conceptual Flexible RA Framework – slide 47 indicates that the conceptual framework has four products:
 - i. Day-ahead (DA) ramping range capacity,
 - ii. 15 minute dispatchable flexible capacity,
 - iii. 5 minute dispatchable flexible capacity, and

iv. Regulation certified capacity.

Cogentrix, in comments on the CAISO FRACMOO2 Supplemental Issues Paper dated January 6, 2017, proposed tighter categories of flexible capacity such as those studied by the CAISO. Cogentrix submits that the CAISO's study starting point of DA, 15 minute, 5 minute intervals is the most logical starting point as the intervals are tied to the current energy market structure. Cogentrix is supportive of continued study and analysis of the intervals as posited by the CAISO in the Working Group Meeting. The next steps should include continued efforts on determination of needs beyond the conceptual framework, the availability of supply to meet the needs, the likely trend of needs over time and supply over time if such a framework were adopted.

- c. Slide 52 discusses the conceptual eligibility criteria. Cogentrix supports expeditious study of the categories posited to identify and quantify needed attributes such as start time, minimum run time, number of starts per day and shut down time. As with the overall framework, next steps should include the availability of supply to meet the needs, the likely trend of needs over time and supply over time if such criteria were adopted.

III. Coordination

- a. Slide 9 - Importantly, the only way the CAISO can be afforded access to a flexible resource fleet under the current construct or any future construct is if the LSEs procure the capacity. This underscores the importance of having the CPUC involved in the process earlier rather than later during the policy development.
- b. Slide 38 states that a new flexible RA framework should be developed based on a quantification of total ramping range and expected levels of uncertainty possible between market runs. Again, any new RA framework will need CPUC agreement so the proper procurement can be coordinated.
- c. Slide 49 discusses a conceptual need determination for each product or category. The needs determination would be identified as shown on slide 50 and the CPUC would order the LSEs to procure capacity.

Additional Comments and Conclusion

Even at a conceptual level, it is important to confirm whether or not flexibility should be viewed strictly as a system attribute as it is currently, or if there is a need to recognize local flexibility needs.

Cogentrix submits that in the discussion on retention of existing resources, the benefits of multi-year flexible RA requirements should not be overlooked.

Cogentrix urges the CAISO to move beyond the conceptual stage and to draft tangible proposals. Variability in periodic ramping requirements is the most significant reliability threat that CAISO faces, and assuring the availability of a flexible fleet is the most important task at hand.

Respectfully submitted,

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