

Stakeholder Comments Template

Submitted by	Company	Date Submitted
Tony Zimmer 916-781-4229 tony.zimmer@ncpa.com	Northern California Power Agency (NCPA)	January 6, 2017

Please use this template to provide your comments on the FRACMOO Phase 2 stakeholder initiative Supplemental Issue Paper posted on November 9.

Submit comments to InitiativeComments@CAISO.com

Comments are due January 6, 2017 by 5:00pm

The Supplemental Issue Paper posted on November 9 and the presentation discussed during the December 9 stakeholder web conference may be found on the [FRACMOO](#) webpage. Please provide your comments on the Supplemental Issue Paper topics listed below and any additional comments you wish to provide using this template.

Identified opportunity for enhancing flexible capacity product

1. Ramping speed
 - a. Large single hour net load ramps

Comments:

The CAISO's Supplemental Issue Paper states that the weighted average ramp rate of approximately 10 MW/minute for the current set of resources contained in the 2016 EFC list may not be sufficient to manage the largest single hourly ramps that are forecasted in future years. The CAISO explains that based on the current composition of the EFC resources, the CAISO may be required to commit a larger number of slower

ramping resources well in advance of the net load ramps, rather than having greater access to faster ramping resources that presumably could reduce the number of resources committed to meet the same ramping needs. CAISO indicates that these types of dispatches will “result in either over-supply or frequent and voluminous wind and solar curtailments.”

In order for NCPA to fully evaluate and consider this and other issues described in the Supplemental Issue Paper, NCPA requests that CAISO provide certain additional information so that market participants can fully understand what options may be available to address the stated concerns. Please find below a list of information NCPA believes will be helpful for consideration during the balance of this stakeholder initiative:

- What is the weighted average ramp rate for the EFC resources that were actually claimed as EFC by load serving entities in 2016?
- What percentage of resources actually claimed as EFC by load serving entities in 2016 that had a ramp rate greater than the 10 MW/minute weighted average described by the CAISO?
- The CAISO seems to imply that the weighted average ramp rate of the resources contained in the 2016 EFC list may not be sufficient to effectively respond to the largest single hourly ramp; what weighted average ramp rate does the CAISO believe is necessary to address this and the other issues described in the Supplemental Issue Paper?
- The CAISO claims that the current flexible capacity program design may require the CAISO to dispatch a greater number of slow ramping resources to follow the largest single hourly ramps forecasted in the future, as compared to the number of resources that would be dispatched if CAISO had greater access to faster ramping resources. It is NCPA’s experience that many of the faster ramping resources that are designed to address short-term ramping needs have significantly higher heat rates and costs than many alternate resources available in the fleet. The CAISO’s daily and hourly market optimization is designed to meet system demand at the lowest system-wide cost. If the CAISO were to redesign the flexible capacity requirements so that the composition of the CAISO dispatch is changed over time, what is the financial implication of such, and what impact would a modified dispatch have on other factors such as emissions and congestion in the system?
- Figure 2 of the Supplemental Issue Paper indicates that the CAISO is forecasting an increase in the size of the largest single hourly ramps in the future. What is the frequency of these observations? For example, is the CAISO forecasting that

it will experience these ramping conditions once per year, once per month, once per week, or more frequently? As the market considers what changes to the flexible capacity requirements may be required to ensure CAISO can operate the system reliably, if any, NCPA believes multiple options should be considered so that the needs can be met, but at the lowest cost to ratepayers. Knowing the expected frequency of these conditions will be very important, so that CAISO and stakeholders can fully consider multiple options; for example, if the frequency is very low, then the following may also be viable options that should be considered:

- Procure more Regulation Capacity, or a product that is operated in a similar fashion; or
- Use limited curtailments of wind and solar to flatten the ramp slope; if the very aggressive ramps are very infrequent, the impact of losing renewable output for a very short period of time may be the most efficient solution, and could reduce the need to reserve more capacity from costly and less efficient resources to address a very infrequent occurrence.

b. The transition from low net loads to steep ramps

Comments:

Please see comments under 1.a.

c. Intra-hour variability

Comments:

Please see comments under 1.a.

2. Cycle time and flexible capacity qualifications

Comments:

NCPA has no comments on this issue at this time.

3. High minimum operating levels from both RA and flexible RA

Comments:

NCPA has no comments on this issue at this time.

4. Most significant net load ramps occur on weekends or holiday weekdays

Comments:

NCPA has no comments on this issue at this time.

5. Significant quantities of long start resources may limit the ISO's ability to address real-time flexibility needs

Comments:

NCPA has no comments on this issue at this time.

6. There is currently no means in place for the ISO to assess the likelihood that the flexible RA showings will adequately meet all ramping needs

Comments:

NCPA does not understand this concern as described by the CAISO. While the CAISO validation software is currently designed to evaluate the effectiveness of the EFC resources committed by load serving entities to satisfy the current requirements (and not certain observations as described in the Supplemental Issue Paper), the CAISO should have access to exactly which resources were committed, and the operating characteristics of the resources that were committed.

Based on that fact, the CAISO should have all the information it needs to perform any analysis it deems necessary. If as a result of this initiative the flexible requirements are modified, NCPA fully expects that the software tools used by CAISO to evaluate the showing will need to be revised accordingly; therefore, the CAISO should be well positioned to evaluate the adequacy of the showings. Please explain what data the CAISO believes it needs for analytical purposes that it does not currently receive.

Other comments

Please provide any additional comments not associated with the topics above.

Comments:

As CAISO considers further enhancements to flexible ramping requirements to address the concerns described in the Supplemental Issue Paper, NCPA believes there is a more pressing issue that the CAISO should be examining, that is currently having a significant impact on how the CAISO is dispatching the fleet, and what resources are made available to the CAISO to address operational needs, including managing the dramatic ramps as described. Pursuant to CPUC Decision 16-06-056, issued on July 1, 2016, (the "Decision") regarding the 2015 gas transmission and storage rate cost of Pacific Gas and

Electric Company (PG&E), the Commission adopted a rate increase of 200.8% for electric generators interconnected to PG&E's local transmission pipeline system, while the rates applied to electric generators served by PG&E's backbone pipeline system received a rate increase of only 6.9%. This decision has had a direct and significant impact on competition in the electric markets, including the CAISO markets.

Under the Decision, natural gas-fired electric generators that supply energy and capacity in the CAISO BAA now face widely different gas transportation rates. Electric generators connected to PG&E's backbone pipelines (EG-BB customers) will pay a class average rate of \$0.1328 per Dth, while competing electric generators that interconnect to the local transmission or distribution pipelines (EG-LT customers) will pay a class average rate of \$1.1002 per Dth – more than eight times the rate paid by their backbone-connected competitors. These higher transportation costs will force EG-LT customers to significantly increase their bids in the CAISO markets, which will more than likely result in such units not being economic for dispatch. Many of these units feature newer technology and have optimal operating and environmental characteristics.

As a result of the new differential in gas transport costs, CAISO could be losing access to certain units that would otherwise provide the type of operational flexibility that is sought in this initiative. In addition to the loss of operational flexibility, the disparate fuel costs could result in the dispatch of a set of higher emitting resources than would otherwise be used, contrary to the State's environmental objectives. NCPA strongly encourages CAISO to commit sufficient resources to study the results of this decision on the bidding of flexible gas units in the CAISO markets, and to evaluate the impact of the decision on the dispatch of the system. NCPA believes that it is likely that CAISO will find that the operational challenges highlighted in the Supplemental Issue Paper are being negatively impacted since the CPUC decision went into effect.