

**Wellhead Electric Company, Inc.'s ("Wellhead") Comments on Draft Flexible Capacity Needs Assessment for 2020**

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**INTRODUCTION.**

Wellhead appreciates this opportunity to provide these brief comments on the CAISO's Draft Flexible Capacity Needs Assessment for 2020 (the "Assessment"). Wellhead would first like to commend the CAISO staff on their continued efforts in conducting the Flexible Capacity Needs Assessment studies. The current results show a significant increase in the maximum 3-hour net load ramp, which is reasonable. Wellhead anticipates that this trend will continue given the expected renewable development over the next several years. In these comments Wellhead will make the following suggestions:

- In addition to planning that is focused on how to efficiently manage the 3-hour net load ramp, the CAISO should evaluate intra-hour flexibility needs;
- While the CAISO's methodology for deriving the flexible capacity requirements is sound, the CAISO should give  $\epsilon$  a value substantially greater than zero to address forecast errors resulting from variables beyond the CAISO's control; and
- The value given to  $\epsilon$  should come from resources capable of addressing intra-hour flexibility needs.

**COMMENTS.**

**1. In addition to planning that is focused on how to efficiently manage the 3-hour net load ramp, the CAISO should evaluate intra-hour flexibility needs.**

Flexible capacity requirement should ensure the "right" set of resources are procured to meet *all* the flexibility needs of the system. System flexibility needs include both inter-hour (3-hour net load ramp) and intra-hour (load following and operating reserves) flexibility. The Assessment is effective in determining the flexibility requirements to meet the forecasted 3-hour net load ramps. However, it does not evaluate any intra-hour flexibility needs. Thus, the flexible capacity requirements may be sufficient to meet the 3-hour net load but still fall short of meeting the load following and operating reserves needed.

The CAISO recently conducted a gas-fired retirement study (the "Retirement Study"), which was discussed in both the 2018-2019 TPP process as well as the CPUC's IRP proceeding. The Retirement Study results showed that given the CPUC's preferred renewable portfolio and conservative gas-fired retirement assumptions, the CAISO would not be able to meet load following and operating reserve requirements. While that study was not solely focused on flexibility needs, it did highlight that absent the "right" type of flexible capacity the CAISO could face intra-hour flexible capacity shortfalls even while still meeting the 3-hour net load ramp.

To avoid these shortfalls in 2020, a sub-set of the flexible capacity requirement come from resources capable of providing load following and operating reserves. Wellhead understands and appreciates that the models and objectives of the Assessment and the Retirement Study differ. However, Wellhead encourages the CAISO to consider studying and reporting on the intra-hour flexibility needs within the Assessment. This information could then be used by LSEs when making procurement decisions and eventually be used in shaping new flexible capacity requirements or resource eligibility criteria.

Wellhead acknowledges that making the later modifications also requires changes to policy, which the CAISO is already considering within the RA Enhancements initiative. Nevertheless, given the current timeline of the RA Enhancements process, Wellhead asks that the CAISO explore expanding the current Flexible Capacity Needs Assessment study to evaluate intra-hour flexibility needs while the policy process proceeds.

**2. While the CAISO’s methodology for deriving the flexible capacity requirements is sound, the CAISO should give “ $\epsilon$ ” a value substantially greater than zero to address forecast errors resulting from variables beyond the CAISO’s control.**

Due to variables beyond the CAISO’s control the actual flexible capacity needed in many months has exceeded the forecasted need. This is because the build out of variable energy resources, both behind and in front of the meter, cannot always be predicted with 100% certainty. Behind the meter solar, which is expected to substantially increase over the next few years, is especially difficult to forecast. Thus, the CAISO should increase the Flexible Capacity Requirements to account for reasonably anticipated forecast errors. This can be done by giving “ $\epsilon$ ”<sup>1</sup> in the Flexible Capacity Requirements formula a positive value sufficient to account for historical forecast errors. Wellhead suggests using the greatest forecast error of the prior full year to determine the value of “ $\epsilon$ ” for the year being forecasted. For example, Wellhead estimates that deficiency of 1,712MW occurred in August of 2018. Therefore “ $\epsilon$ ” would equal 1,712 for purposes of calculating the 2020 flexible capacity requirements.

**3. The value given to  $\epsilon$  should come from resources capable of addressing intra-hour flexibility needs.**

In anticipation of the CAISO incorporating intra-hourly flexible needs into the Assessment, resources procured to account for  $\epsilon$  should be capable of providing load-following and operating reserves. In Particular Wellhead suggests they be “Fast-Flex” Resources with the following performance standards:

- i. A resource must achieve its P<sub>MAX</sub> from a non-generating condition in fifteen (15) minutes or less. This aligns well with the CAISO fifteen-minute market and one potential objective of the current FRACMOO initiative<sup>2</sup>.
- ii. Minimum ramps to P<sub>MAX</sub> per day – two (2).
- iii. Minimum uptimes of thirty (30) minutes or less. This assures that Fast Flex Resources can operate at P<sub>MAX</sub> and be useful for corrective capacity purposes, and, in the case of GHG-Producing resources not overstay their welcome, i.e. GHG-producing resources will get out of the way of renewables when no longer needed.
- iv. Sustained operations at P<sub>MAX</sub> – duration capability of at least four (4) hours.
- v. The ability to return to a non-generating condition in 15 minutes or less.

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<sup>1</sup> The formula used to “calculate the ISO system-wide flexible capacity needs” includes “ $\epsilon$ ” which represents an “Annually adjustable error term to account for load forecast errors and variability methodology”. See Assessment at page 4.

<sup>2</sup> CAISO’s Flexible Resource Adequacy Criteria and Must Offer Obligation – Phase 2, Second Revised Flexible Capacity Framework, dated April 27, 2018, Page 4.

- vi. Examples of potentially eligible resources include, but are not limited to, stand- alone battery storage, various other forms of storage (gravity, hydro, fast start units with either hydrocarbon or RNG fuels, fuel cells, 10-minute start enabled gas-fired units (Peakers), and various forms of hybrids that combine technologies to achieve Fast Flex Resources standards consistent with SB1136.

**CONCLUSION.**

Evaluating intra-hourly needs and adding to the flexible capacity requirements to account for forecast errors will positively contribute to ensuring the grid remains safe and reliable. The CAISO should adopt the foregoing suggestions and incorporate them into the Flexible Capacity Needs Assessment.

Wellhead looks forward to continuing to engage with the CAISO on this topic.