

Stakeholder Comments

Flexible Ramping Product Draft Technical Appendix Working Group Session, June 17, 2015

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SDG&E appreciates the opportunity to comment on the June 17 working group to review the Flexible Ramping Product Draft Technical Appendix published June 10. This technical appendix provides good details absent from the prior flexible ramping product (FRP) straw proposal. SDG&E is supportive of the CAISO's work to address the increasing need for flexible ramping capability as the system dynamics continue to change. And, we feel the outlined methodology in the Technical Appendix to be a sound framework. SDG&E commented previously that CAISO needed to develop the flexible ramping framework more extensively and illustrate, with examples and data, exactly how the FRP would work from bid-to-bill. The Appendix largely answers many outstanding questions and concerns pertaining to the details of the FRP. However, it is imperative for CAISO to run test cases from bid-to-bill and provide data to stakeholders so all can analyze and assess the readiness of this product. It is hard to qualify this method as an efficient and effective way to procure for the flexible ramping need without seeing the theory applied to market data.

SDG&E believes the methodology of applying the forecasted change in net load and the error term (probability distribution function) of the forecast to define procurement of flexible ramping capability in the real time market is sound. SDG&E has some concerns about the data the CAISO proposes to use for both net load change forecasting and the error value. In both cases, if the data is not a good proxy, this could mean over-procurement or under-procurement of the FRP, both of which are not good solutions for the market.

The error term, in theory, should ensure the market doesn't over or under procure FRP. At a point, it is better to risk exposure to the penalty price because the probability of exceeding the ramping forecast and triggering the penalty is small. While the method is

sound, the accuracy of the method is dependent on the historical data used and robustness of extrapolation. For example, is it possible the FRP process ends up costing more than necessary to meet the flexible ramping need? The error term should guard against over-procurement because it provides a framework which, in many cases, will result in only a portion of the forecasted net load change impacting procurement to meet flexible needs. However, as shown in examples in the workshop and the Appendix, sometimes this results in ramping a unit up or down in the advisory interval to allow it to be ready for forecasted ramping needs in the binding interval. In theory, this could mean ramping a unit down to give it room to be able to ramp up again. This may require bringing on a more expensive unit in the advisory interval to cover the gap and meet the forecasted ramping requirement need. If the ramping need doesn't materialize, this is added cost. We accept that predicting the future is never going to be completely accurate. However, there needs to be some vetting and some oversight of this process to make sure it is running effectively.

Additionally, forecasting is only as good as the past predicts the future. CAISO has proposed using 30 day rolling historical data as a foundation for forecasting net ramping needs in the real time market. SDG&E is concerned this might not be enough data. CAISO spoke to using 'like' hours across the month. Taking out weekends, does this mean a pool of 22 data points may be used to figure out the forecast? What if there is shifting in weather and consumption? This may not prove to be a robust method. SDG&E understands the purpose of the second part of FRP, the error term of the forecast, is meant to temper this first part, the historical data.

SDG&E is eager to see the data when CAISO publishes examples using real market data. SDG&E supports the method to forecast and procure FRP outlined in the Technical Appendix and at the workshop. SDG&E will be more confident in methodology once data and test cases can illustrate this method is not noticeably over, or under, procuring flexible ramping capability.