

Comments on Flexible Ramping Product Refinements Draft Final Proposal

Department of Market Monitoring

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Overview

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the ISO's Flexible Ramping Product Draft Final Proposal.¹ The proposed refinements will continue the process of developing market based procurement of flexible capacity and reserves needed to manage a system that is increasingly comprised of intermittent renewable resources. The process started with the implementation of the real-time flexible ramping constraint, evolved into the current real-time flexible ramping product, and now includes development of the ISO's proposed day-ahead imbalance reserve products. DMM supports the proposed refinements as significant improvements to the flexible ramping product.

Deliverability enhancements

Accounting for transmission constraints will significantly improve the effectiveness of procured flexible ramping reserves. It has been pointed out that the deployment scenarios will not ensure that all procured flexible ramping capacity is deliverable in all cases. While true, ensuring all capacity is always deliverable is too high a standard. Using the deployment scenarios will be a vast improvement over the current procurement which ignores transmission constraints altogether. The ISO's proposal should greatly improve the flexibility of the real-time dispatch to meet uncertain net load. To the extent that significant amounts of stranded flexible reserves persist, the ISO can continue to refine the deployment scenarios.

Proxy demand response eligibility

Restricting procurement of flexible reserves to resources that are dispatchable within the real-time market intervals is necessary given the purpose of the flexible ramping products. Therefore any proxy demand response and other resources that are not dispatchable within the real-time market intervals should not be eligible to meet flexible ramping requirements.

Deriving FRP demand curves from regressions

DMM supports the ISO's effort to improve the accuracy of its estimates of net load uncertainty. Using quantile regression to estimate the percentile points along the demand curve could be a significant improvement over the current approach.

The ISO plans to put the regression formulation in a BPM. The ISO should continue to inform stakeholders and seek their input on the regression formulation in this stakeholder process and through the BPM process. Stakeholders can provide valuable input on the formulation and should be kept informed on how demand curves are created.

¹ *Flexible Ramping Product Refinements: Draft Final Proposal*, California ISO, May 8, 2020:
<http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-FlexibleRampingProductRefinements.pdf>

FRP demand curve effects on energy prices

The ISO points out that by enforcing transmission constraints, energy prices will rise as the quantity of flexible ramping capacity procured is reduced along the demand curve. This reflects the intention of the flexible ramping product design, which is to have energy prices include the cost of reducing available flexible reserves.

Currently the energy price often does not include the cost of reducing *effective* flexible reserves. This is because the flexible ramping product does not account for transmission. As a result, the optimization can often procure *ineffective* flexible reserves that cannot be converted to energy because the reserves are behind constrained transmission elements. By enforcing transmission constraints in the flexible ramping procurement, the energy price will account for the cost of reducing effective flexible reserves consistent with the purpose of the flexible ramping product design.

DMM continues to recommend that the ISO extend the real-time flexible ramping product time horizon

DMM continues to recommend that the ISO enhance the real-time flexible ramping product to address uncertainty in net load forecasts over longer time horizons.² Currently ISO operators take numerous and significant out of market actions to procure additional flexible reserves. Extending the real-time market uncertainty time horizon should reduce the need for such manual intervention, increase the procurement and pricing of flexible reserves through the real-time market, and also maintain and utilize the value of flexible reserves procured in the day-ahead or extended day-ahead market.

Extending the time horizon of the real-time flexible ramping product will be a significant but valuable design change. This change is not needed to implement the ISO's proposed refinements which should go forward without extending the time horizon. However, the ISO should begin to explore extending the flexible ramping product time horizon as soon as practical.

² *Comments on Flexible Ramping Product Refinements: Issue Paper and Straw Proposal*, Department of Market Monitoring, December 5, 2019: <http://www.caiso.com/InitiativeDocuments/DMMComments-ExtendedDay-AheadMarket-IssuePaper.pdf>

Comments on Issue Paper on Extending the Day-Ahead Market to EIM Entities, Department of Market Monitoring, November 22, 2019: <http://www.caiso.com/InitiativeDocuments/DMMComments-ExtendedDay-AheadMarket-IssuePaper.pdf>