

Western Power Trading Forum on the CAISO's Flexible Ramping Product Refinements Draft Final Proposal

Kallie Wells - Gridwell Consulting for WPTF - kwells@gridwell.com

The Western Power Trading Forum

The Western Power Trading Forum (WPTF) is a California nonprofit, public benefit corporation. It is a broad-based membership organization dedicated to enhancing competition in Western electric markets while maintaining the current high level of system reliability. WPTF supports uniform rules and transparency to facilitate transactions among market participants. The membership of WPTF and the WPTF CAISO Committee responsible for providing these comments include CAISO and EIM entities, load serving entities, energy service providers, scheduling coordinators, generators, power marketers, financial institutions, and public utilities that are active participants in the California market, other regions in the West, and across the country.

Summary of Comments

WPTF appreciates the opportunity to submit these comments on the CAISO's Flexible Ramping Product Refinements Draft Final Proposal discussed on May 18 with stakeholders. WPTF continues to be generally supportive of most elements of the policy but encourages the CAISO to take additional time on the nodal procurement element. As discussed in more detail below, the latest iteration contains modifications that are non-trivial and have potentially significant implications on pricing, thus warrant further discussion to ensure all stakeholders understand the implications before moving forward. In the event the CAISO does want to move forward with the other elements of the proposal while continuing to discuss the nodal procurement element, WPTF would be supportive of a phased approach.

The comments below also seek additional clarification on the minimum FRP requirement and continues to note that, while we appreciate the improvement to FRP pricing via nodal procurement, the CAISO should absolutely prioritize and develop a more robust shortage/scarcity pricing mechanism.

Nodal Procurement

WPTF continues to support the idea of nodal procurement for FRP as it will help address the issue of the market awarding FRP capacity to resources that cannot deliver when needed. However, it is imperative that stakeholders fully understand not only the policy itself but also the market implications before moving forward with such a design. Including significant changes in the final iteration, such as distributing the demand curve surplus variable to load aggregation points (LAPs), leaves minimal time for stakeholders to fully understand what is being proposed and provide useful feedback that can be incorporated into the policy. As discussed in more detail below, WPTF remains unclear on how the LAP level demand curve surplus variable will impact energy market prices when relaxed, which could have significant

market pricing implications. Thus, WPTF asks that the CAISO take additional time to discuss this element of the proposal with stakeholders.

On the May 18 stakeholder call, the CAISO for the first time discussed the proposal of distributing the FRU and FRD demand curve surplus variable to the LAPs. WPTF would like additional clarification on how relaxing the demand curve surplus variable at individual LAPs will now impact the energy prices. The CAISO has noted in the proposal that under the current design when the market relaxes the FRU/FRD demand curve, the corresponding demand curve price is then added to the marginal cost of energy and “increase[s] the energy price above [the] last economic energy bid.” This is further illustrated by an example included on pg 19 of the proposal whereby the last economic energy offer is \$200/MWh, the FRU requirement is relaxed at \$100/MWh, and the resulting energy price would be \$300/MWh. Therefore, absent losses and congestion, the energy prices across the system would be \$300/MWh. However, it is WPTF’s understanding that the demand curve surplus price is not directly added to the energy price when its relaxed, as indicated by the formulas provided in the price formation section of the Technical Appendix. Thus, WPTF first asks that the CAISO confirm that when the requirement is relaxed the corresponding demand curve price is not directly added to the energy price.

In the event the demand curve price is directly added to the energy price, then WPTF would appreciate the CAISO providing clarification on what happens to the energy prices when only the demand curve surplus at one LAP is relaxed. Using the same example as above, but if only the demand curve at PG&E DLAP is relaxed, WPTF would like to understand the following:

- Will the energy price at the PG&E LAP and all pricing nodes within the PG&E LAP be \$300/MWh while all other energy prices remain at 200/MWh?
- Assuming only the PG&E DLAP energy price and nodal energy prices within the PG&E DLAP reflect the higher price, what LMP component will reflect the demand curve relaxation price?

If it is the case that only the PG&E DLAP and constituent pricing nodes will be the only energy prices that reflect the demand curve price when its relaxed, WPTF is concerned with the price formation aspect of the proposal. Absent losses, the congestion component is the only way in which the prices across the system can differ; it then follows that the only way for energy prices within one LAP to reflect the demand curve relaxation price is for the demand curve price to be included in either a new LMP component or the congestion component. WPTF does not believe it makes sense for the FRU/FRD demand curve relaxation price to be reflected in the congestion component, but the CAISO has not mentioned the need to include a new LMP component. Thus, WPTF believes the CAISO needs to take ample time to walk through the energy pricing implications of having the FRU/FRD demand curve surplus variable applied at the LAP level, specifically when the market opts to relax the requirement.

WPTF also asks that the CAISO provide more information on the following elements of the proposal in another iteration. While we understand that the CAISO may rather wait until the implementation phase to determine details such as these, the stakeholders need to understand how the CAISO is at least proposing to address the following elements prior to having the policy finalized. Once in the implementation phase, stakeholders have less transparency into the implementation details and inability to provide constructive and useful feedback.

- How will the CAISO distribute the FRU/FRD uncertainty requirements to the VERs in the deployment scenarios? Will there be consideration of geographical, fuel source, and historical output differences?
- How will the price and megawatt quantity pairs of the demand curve surplus variable be allocated to each of the LAPs within the CAISO BAA?
- If based on historical differences, how often will the CAISO update the values used to determine the distribution?

Scarcity Pricing

As noted above, WPTF is seeking clarification on if the demand curve penalty price is directly added to the energy price when the FRU/FRD is relaxed. In the event the CAISO clarifies that the demand curve surplus variable is not added to the energy prices when relaxed, this clarification would further WPTF's concerns with regards to scarcity pricing. In the SMPM and FERC Order 831 policy efforts, the CAISO continues to point to the FRP Refinements proposal as the effort that is addressing scarcity pricing. WPTF has been, and continues to be, concerned that while in theory nodal procurement may help increase prices when supply is scarce, in practice it will fall short. This is because:

- The FRU requirement is minimal during peak net load hours of the day when tight supply conditions are more likely to occur, which is one of the characteristics noted by the CAISO of the latest proposed methodology for calculating the FRU requirement
- The CAISO's FRU requirement is significantly reduced due to the EIM diversity credit, in some cases essentially eliminating the requirement all together
- The opportunity cost of procuring FRP may be minimal when the market is already having to dispatch at the higher end of the supply stack because the tradeoff between two high priced resources is minimal, thus the constraint may not be relaxed even when the market is down to the last few megawatts of supply
- Relaxing the demand curve surplus variable may or may not increase the energy price, thus while the FRU/FRD prices rise to the demand curve surplus variable the scarcity is not reflected in the resulting energy prices

If the CAISO confirms that the energy prices may or may not reflect the relaxation of the demand curve surplus variable in a similar way in which energy prices may or may not increase when there is an A/S Scarcity event, then even in theory nodal procurement of FRU will not always allow energy prices to rise above the marginal cost of energy under tight supply/near

scarce conditions. Thus, while WPTF agrees nodal procurement will help with the pricing of FRP it does not and should not be considered the shortage/scarcity pricing mechanism. This can be illustrated by evaluating FRU and energy prices within an EIM BAA when the FRU demand curve is relaxed. For example, on May 31, 2020 in HE 17 the RTD FRU price reached \$247/MW in the BCHA EIM area, which corresponds to the highest price on the surplus demand curve and indicates that the FRU requirement was relaxed. However, during the same interval (HE 17 Int 9) the energy price for BCHA was only \$12.84/MWh¹.

On the other hand, if the CAISO does confirm that the demand curve penalty price is directly added to the energy price when its relaxed, then the only way in which scarcity system wide would be uniformly reflected in all energy prices is if all three DLAPs relax the constraint at the pricing point. This again is another element of the FRP design that would not lend itself to be a pure and effective substitute for a shortage/scarcity pricing mechanism.

Allowing market prices to reflect tight supply conditions is imperative for the energy market. This is especially important given the supply conditions the CAISO is currently facing and anticipating. Not to mention the possible implementation of system wide market power mitigation mitigating bids absent uncompetitive conditions further impedes the ability for the market to produce appropriate prices signals. Regardless of the clarification provided by the CAISO on whether the demand curve relaxation price is directly added to the energy price, the FRP design under nodal procurement still falls short of having a robust shortage/scarcity pricing mechanism. Therefore, WPTF respectfully requests that the CAISO open, and prioritize, and scarcity pricing policy effort outside of the Bucket 3 EDAM topics to design and implement a pricing mechanism that will increase prices above the marginal cost of energy as supply tightens and becomes scarce.

Minimum FRP Requirement

WPTF understands the need to enforce a minimum FRP requirement by BAA to provide more assurance that a BAA's flexible ramping needs are provided from internal resources within that BAA to address uncertainty should it arise. The CAISO is now proposing that a minimum requirement will only be enforced if a BAA is driving 60% or more of the system requirement. WPTF appreciates the analysis that was conducted to help inform the 60% trigger but wonders if having a specified trigger such as 60% introduces unintended market volatility. For example, if in one hour a BAA is at 59% and thus no minimum requirement enforced, but in the next hour does have a minimum requirement enforced, how will that impact the resources being awarded FRP and the pricing? Will the pricing and awards bounce back and forth in direct correlation with when a BAAs threshold bounces above and below the 60% threshold? WPTF would be open to considering more of a gradual approach mentioned by another stakeholder on the call to minimize any unintended market outcomes resulting from having a pre-defined static trigger threshold.

¹ See the May 31 [Real-Time Daily Market Watch Report](#)

Additionally, WPTF seeks more clarification around what criteria will be used when determining if/when a nominal requirement will be enforced in other areas. It's extremely important from a transparency perspective for participants to know what factors will be considered when making that determination and to what level will the minimum requirement be set. WPTF would also like to better understand if the nominal requirement will be a flat MW value or be based on a percentage of the BAA's minimum requirement.

Thank you for consideration of these comments.