



MARKET & POLICY NEWSLETTER

November served as a key milestone for the implementation of FERC 764 market design changes as the CAISO submits their Tariff Filing before FERC, with a targeted implementation date of April 1, 2014. Market changes include a new financially binding fifteen-minute market (FMM), new intertie scheduling options, the re-administration of convergence bidding on the interties, as well as the redesign of the Participating Intermittent Resource Program (PIRP).

The CAISO will provide PIRP resources that meet specific criteria the option to remain in the existing settlement paradigm for a maximum of three years. The administration of these 'protective measures' was primarily driven by stakeholder pressure surrounding the mitigation of uncertainty regarding scheduling and settlement performance, and the difficulties with negotiating the equitable treatment of imbalance energy and the authorization to submit decremental bids to mitigate exposure to negative prices during over-generation conditions.

Merchant intermittent resources and intermittent resources with lenient contract terms that equitably allocate imbalance energy, either to the off-taker or resource *in total*, will benefit from the FMM under the proposed FERC 764 market design because a large portion of the forecasted energy production of the resource will be captured in less volatile, and less likely to be negative, 15-minute interval (FMM) prices.

Perspectives on Potential FMM Price Performance

It is difficult to say with certainty how the new FMM prices will perform under the

new FERC 764 market design. It can be reasoned that FMM prices will be less volatile than RTD (5-Minute Real-Time Dispatch) prices due to reduced granularity. Theoretically, the more granular a financially binding interval becomes, the more volatile the price will become because as the granularity of the interval shrinks, the interval price begins to more and more reflect the *instantaneous* supply and demand imbalance at a particular point in time. With less lead time in more granular intervals, and therefore less time to ensure sufficient energy and ramping capacity is available, the price becomes exaggerated to reflect the extent of the urgency of the supply and demand imbalance¹. We can therefore infer that the volatility of FMM prices will reside somewhere between the volatility of DAM (Day-Ahead Market) and RTD prices.

The Department of Market Monitoring (DMM), which is tasked with examining existing and proposed market functions to mitigate market manipulation and inefficiency, is urging the CAISO to place a high priority on addressing their concern that FMM prices will be significantly greater than DAM and RTD prices. The DMM estimates that FMM prices could be 20% greater than DAM prices and 25% greater than RTD prices. This increase is being accredited to the flexible ramping constraint, which commoditizes imbalance energy

¹ We assume that supply and demand must match at all times, where supply in this instance is coincident energy generation, due to the lack of significant storage potential of the resource fleet. As energy storage plays an increasingly significant role in the provision of supply, we can infer that the volatility of increasingly granular interval prices should begin to reduce.

(ramping) needs *between* 15-minute optimization processes and 5-minute dispatch processes. This flexible ramping constraint cost acts to inflate 15-minute prices by allocating the cost of this ramping need into the 15-minute price.

For resources participating in the real-time markets, these higher prices may be a welcomed benefit.

Exceptional Dispatch in September and October

Total volume of exceptional dispatch in October dropped significantly, from 70,154 MWh in September to 34,117 MWh in October. The decline is due to reduced load forecast uncertainty and constrained Path 26 (see figure 22²).

Figure 22: Total Exceptional Dispatch Volume (MWh) by Reason

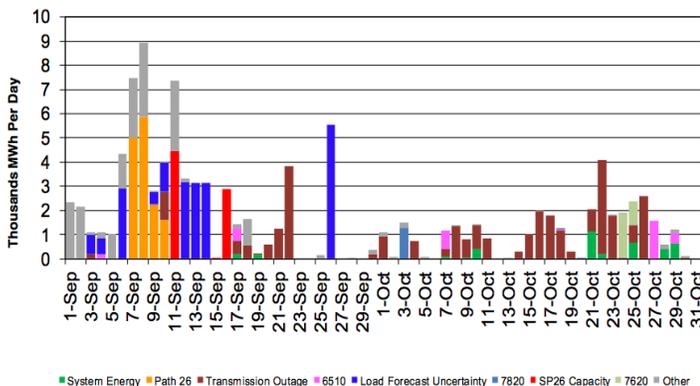
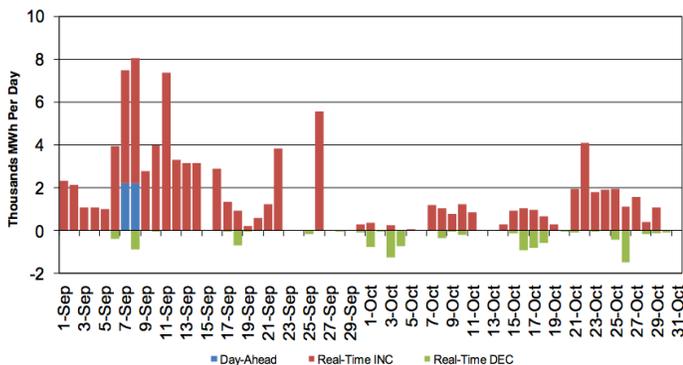


Figure 21: Total Exceptional Dispatch Volume (MWh) by Market Type



² Department of Market Quality and Renewable Integration, October 2013 Market Performance Report

With the fall season we see greater exceptional dispatch in response to transmission outages.

In October, we also see a greater volume of real-time decremental exceptional dispatches (see figure 21).

These types of dispatches are likely to increase as penetration of wind generation increases. The ISO is working on a number of initiatives to attempt to mitigate decremental exceptional dispatches. Some projects that are likely to reduce over-generation concerns include: FERC 764, Flexible Resource Adequacy Criteria, Flexible Ramping Product, and Energy Imbalance Market.

Progress on Flexible Resource Adequacy Criteria and Must-Offer Obligation (FRACMOO)

The Flexible Resource Adequacy Initiative, which is slated to administer new capacity procurement obligations on Load-Serving Entities (LSEs) beginning with the 2015 RA compliance year is facing increasing stakeholder criticism. Stakeholders do not view the allocation of flexible capacity procurement obligations onto LSEs as conforming with cost causation, as variable energy resources are sources of flexible ramping needs and are not always contracted with ISO LSEs. It is unlikely that the CAISO will budge on this aspect of the proposal and would look to LSEs to properly structure their power purchase agreements with variable resources accordingly.

Another concern surrounding the proposal is the large variety of must-offer obligations for each different type of resource. Particularly, use-limited resources face a rather stringent must-offer requirement that could require them to offer replacement capacity when their use-limitations are reached. In contrast, demand response resources have a rather lenient must-offer requirement and are provided with greater flexibility to determine their availability.

The ISO will likely kick off a working group to explore the setting of the backstop flexible capacity price, which could serve as a price signal for the bilateral procurement of flexible capacity. Importantly, resources that provide flexible RA to LSEs will be required to make that capacity available, during specific hours of the day, as *economically bid-in capacity*. This will serve to increase the amount of dispatchable capacity at the ISO's control and reduce the volume of self-scheduled energy. Resources providing flexible RA will be looking towards bilateral flexible RA contracts to recuperate fixed costs associated with the resource, as they will be forgoing revenue that they could otherwise be making by self-scheduling into the market.

If you have any questions about what these developments mean for your business, please contact:
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Energy Imbalance Market Processes Timeline

Attached to this document we've provided a graphical timeline of the Energy Imbalance Market Processes. This new market will allow resources outside of the CAISO territory to participate in the ISO's real-time imbalance market, increasing the economics of merchant generation not contracted with a load serving entity.

Related Resources

FERC 764 ISO Stakeholder Page

<http://bit.ly/16B1hBI>

FERC 764 Tariff Filing

<http://bit.ly/IK10Ez>

DMM October 2013 Market Performance Report

<http://bit.ly/IqvGu3>

Flexible Resource Adequacy ISO Stakeholder Page

<http://bit.ly/1iIjmA8>

Energy Imbalance Market ISO Stakeholder Page

<http://bit.ly/155js8v>

Energy Imbalance Market Processes Timeline

