Comments on FERC Order 764 Compliance 15-Minute Scheduling and Settlement Straw Proposal

Department of Market Monitoring
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Summary

The Department of Market Monitoring (DMM) appreciates the opportunity to provide comments on the 15-Minute Scheduling and Settlement Straw Proposal. We support the general approach of settling all intertie and internal load and generation on a 15-minute market while keeping the 5-minute market intact. This may significantly reduce Real-time Imbalance Energy Offset costs compared to settling internal resources on 5-minute RTD prices separate from settlement of inter-tie resources on hourly HASP prices. DMM finds the settlement structure reasonable for the interim period in which WECC standards preclude a single real-time market.

While we support this general approach, we have several concerns about the proposal.

- Exempting 15-minute tie schedules with HASP transmission reservations from the 15-minute intertie (ITC) congestion price may cause significant uplift from real-time congestion offsets. Intertie virtual schedules will exacerbate this uplift while providing little to no market efficiency benefits. DMM does not support exempting 15-minute tie schedules with transmission reservations from the 15-minute ITC congestion price. Furthermore, DMM opposes intertie virtual bids under such a pricing scheme.

- The proposed two-settlement real-time market structure potentially creates several new incentives for internal generation resources to deviate from their 5-minute dispatch instructions. The deviation incentives are not related to inflating BCR or RIE. A mechanism that provides incentives to follow dispatch instructions, such as an uninstructed deviation penalty or similar instrument, implemented at the same time as the proposed 15-minute market may prevent this inefficiency.

- Predictable price differences between the 15- and 5-minute markets would create profit incentives for imports or exports to systematically not tag their 15-minute schedules. DMM recommends settling un-tagged 15-minute tie schedules on the least profitable of each schedule's 15-minute or average 5-minute LMP.

We provide more detail on these concerns below.

Exempting 15-minute tie schedules from 15-minute ITC congestion price

Exempting 15-minute tie schedules with HASP transmission reservations from the 15-minute ITC congestion price may cause significant real-time congestion offset uplift. Uplift will occur when:

1. The 15-minute import ITC shadow price exceeds the HASP import ITC shadow price; and
2. Imports with transmission reservations displace day-ahead physical or virtual imports (or net against 15-minute export schedules) that settle on the full 15-minute LMP.

The 15-minute market pays import schedules that have HASP reservations the scheduling point's 15-minute market LMP, without subtracting the 15-minute market import ITC shadow price. On the other hand, day-ahead physical or virtual imports that buy back their day-ahead positions in the 15-minute market pay the full 15-minute LMP. The price paid by these transactions to the 15-minute market is less than the price paid to each import schedule with a HASP reservation in the 15-minute market. The difference in price is precisely the 15-minute import ITC shadow price. Therefore, for every 15-minute import schedule with a HASP reservation that displaces a day-ahead physical or virtual import, the real-time uplift account accumulates a charge equal to the 15-minute ITC shadow price.

The 15-minute market import schedules have to pay the HASP import ITC shadow price in order to get their HASP transmission reservations. This credits the real-time uplift account. However, when the HASP import ITC shadow price is less than the 15-minute import ITC shadow price, the credit from the transmission reservation payments will be less than the charges caused by exempting these schedules from the 15-minute market ITC shadow price.

Therefore, the proposed shadow price exemption policy will cause real-time imbalance offset charges to the extent that 15-minute import ITC congestion prices exceed HASP ITC congestion prices. This result is anticipated, since generally speaking we have observed increasing shadow prices on transmission constraints as we move from the less ramp-constrained day-ahead market to the more ramp-constraint 5-minute RTD market. DMM highlights this issue so that the anticipated increase in real-time revenue imbalance can be explicitly considered in the development of this market design enhancement. An alternative that can mitigate this uplift is to settle all injections and withdrawals in the 15-minute market at each node's full LMP.

If the ISO proceeds with the proposed shadow price exemption policy, intertie virtual schedules could cause or exacerbate the uplift described above while providing little to no market efficiency benefits. DMM has provided arguments and evidence elsewhere that intertie virtual bids provide little to no market efficiency benefits under the existing design.[1] Meanwhile, intertie virtual supply would exacerbate uplift at interties with 15-minute import ITC congestion because every MWh of virtual supply at such a tie is displaced by a 15-minute import schedule. Therefore, when the 15-minute ITC shadow price exceeds the HASP shadow price, every MWh of virtual supply at the tie directly creates real-time uplift equal to the difference in the shadow prices. Moreover, the ISO's proposal allows imports to increase their self-scheduled 15-minute import quantity to meet or exceed their HASP reservation quantity. Under this proposal, virtual supply could be used strategically to cause the 15-minute ITC shadow price to exceed the HASP ITC shadow price and profit from this difference. As a result, DMM opposes intertie virtual bids under a pricing design that exempts 15-minute market tie schedules from the 15-minute ITC shadow price.

Incentives for internal generation to deviate from dispatch

The proposed 2 real-time market structure creates several new incentives for internal generation resources to deviate from their 5-minute dispatch instructions. These deviation incentives are not related to inflating BCR or RIE.

First, internal resources may have the incentive to deviate from their 5-minute dispatch instruction in order to protect their profits in the 15-minute market from being eroded by revenue shortfalls in the 5-minute market. If a resource follows its 5-minute market dispatch instruction away from its 15-minute market schedule, spurious 5-minute market LMPs may create a revenue shortfall for the energy settled in the 5-minute market. This shortfall would net against the resource's profits from its 15-minute market schedules. Risk-averse resources content with their profits from the 15-minute market have incentives to deviate from the 5-minute dispatch instructions in order to operate at their 15-minute schedules and avoid exposure to 5-minute market prices.

Resources may also have the incentive to deviate from dispatch instructions in order to profit from expected price differences between the 15-minute and 5-minute market LMPs, or to force their real-time output to settle on the 5-minute market prices rather than the 15-minute market prices. The disparity between a resource's telemetered output and its schedule is considerably larger in the proposed 15-minute market than in the 5-minute market. A resource could utilize this fact to expose the difference in its 15-minute and 5-minute market schedules to the difference between the 15-minute and 5-minute market LMPs. The resource could profit from expected differences between the markets' prices by submitting high real-time bids and deviating in order to operate at its day-ahead schedule.

Similarly, a resource that expected the 5-minute market prices to systematically exceed the 15-minute market prices may be able to force a significant portion of its real-time

[1] See DMM's comments on the Intertie Pricing and Settlements stakeholder initiative Third Revised Straw Proposal at http://www.caiso.com/Documents/DMM-Comments-IntertiePricingSettlementThirdRevisedStrawProposal.pdf

output to settle on the 5-minute market price by deviating to stay above its day-ahead schedule.

The incentives to deviate described in these comments are not related to inflating BCR or RIE. DMM believes the mitigation measures proposed in the BCR Mitigation Measures stakeholder initiative may not be effective in removing these new incentives to deviate. Other incentives to follow dispatch instructions when the 15-minute market is implemented may be warranted, such as an uninstructed deviation penalty, in order to mitigate this specific incentive to deviate, as well as to further mitigate incentives to deviate in order to inflate BCR or RIE.[2]

Settling un-tagged tie schedules on 5-minute market prices

If the ISO settles un-tagged tie schedules on the 5-minute market price, predictable price differences between the 15- and 5-minute markets would create profit incentives for imports or exports to systematically not tag their 15-minute schedules. Power marketers that expected the 15-minute market prices to exceed the 5-minute market prices could profit from this expected price difference by not tagging imports they scheduled in the 15-minute market. Similarly, power marketers that expected the 5-minute market prices to exceed the 15-minute market prices could profit from this expected price difference by not tagging exports they scheduled in the 15-minute market.

One alternative for mitigating the incentive to not tag intertie schedules is to settle un-tagged 15-minute market imports on the higher of the 15-minute market and 5-minute market prices. Similarly, un-tagged 15-minute market exports could be settled on the lower of the 15-minute and 5-minute market prices. Stated differently, this strategy can be mitigated by settling un-tagged 15-minute intertie schedules on the least profitable of each schedule's 15-minute or average 5-minute LMP.

[2] See DMM's comments on the Second Revised Draft Final Proposal for the BCR Mitigation Measures stakeholder initiative for our concerns over gaps in the ISO's proposed measures to eliminate incentives to deviate in order to inflate BCR and RIE: http://www.caiso.com/Documents/DMM-Comments-BidCostRecoveryMitigationMeasuresSecondRevisedDraftFinalProposal.pdf