

Comments on Contingency Modeling Enhancements Revised-Straw Proposal

Department of Market Monitoring

July 29, 2013

The Department of Market Monitoring (DMM) appreciates the opportunity to provide comments on the Contingency Modeling Enhancements Revised Straw Proposal.

- DMM supports including the corrective constraints in the optimization. This should allow the ISO to more efficiently manage the 30-Minute contingency requirements through market processes, price the cost of meeting these constraints and compensate resources that are helping to meet these requirements.
- DMM does not support allowing separate bids for corrective capacity. There does not appear to be any incremental costs associated with providing corrective capacity that are not covered by the LMPC. The LMPC will at the very least cover within-market opportunity cost of not providing energy or other ancillary services, and in most cases will provide additional net revenue to units providing this capacity than they would earn from participating in the ISO's current energy and ancillary services market.
- DMM supports the provision removing the option for resources to bid-in their ramp rates. This is a physical characteristic of resources more appropriately recorded in the ISO Master File and only altered through SLIC if limited by actual temporary physical conditions.
- Local market power mitigation will have to be altered to accommodate the new capacity reservation and constraints introduced by this initiative. The Dynamic Competitive Path Assessment (DCPA – a test for competitiveness) will need to be updated in two ways. First, the DCPA will need to be applied to test the competitiveness of supply available to meet the new corrective capacity constraints. In addition, the test for competitiveness of existing (preventative) constraints also has to be adjusted in real-time to account for the amount of supply being reserved to meet these new corrective capacity requirements.
- DMM also recommends that procedures be put in place to allow for compliance testing of resources providing corrective capacity. Resources that cannot reliably deliver energy from reserves they have sold should not be eligible to provide those reserves.
- Additional information on the corrective limits would help market participants gain a better understanding of the magnitude and nature of the corrective capacity requirements.

We elaborate on these points below.

No Separate Bidding of Corrective Capacity

DMM believes that in most cases there are not any marginal costs associated with providing corrective capacity, and that any potential marginal costs of providing this capacity will be covered by the LMCP. The LMCP will at the very least cover within-market opportunity cost of not providing energy or other ancillary services. In most cases the LMCP will also provide additional net revenue to units providing this capacity than they would earn from participating in the ISO's current energy and ancillary services market.

A resource's energy bid states its willingness to produce energy or leave capacity unloaded (that is, its willingness to provide capacity). For purposes of corrective capacity procurement, the energy bid is an implicit capacity bid which the Preventive-Corrective framework utilizes to find the cost minimizing solution that meets the model constraints and correctly compensates capacity provided.

Because there is no identifiable marginal cost associated with providing corrective capacity, the inclusion of separate capacity bids may introduce market inefficiency when non-zero bids set the LMCP or cause capacity to not clear the market that otherwise would have cleared. Furthermore, separate capacity bids can be used to exercise local market power in capacity. Corrective capacity will be procured on a constraint-level granularity which is subject to the same local market power potential as energy for that set of constraints and more so than ancillary services which are procured at a broader regional level.

Eliminate Bid-In Ramp Rates to Limit Opportunity to Withhold Ramp Capacity

Market power can also be exercised by using bid-in ramp rates to physically withhold corrective capacity, or other ramping energy and capacity, from the market. DMM views the ramp rate as a physical characteristic of a resource and not a market mechanism that should be varied based on market conditions. With the increased emphasis on valuing ramping energy and capacity reflected in numerous ISO market design initiatives – combined with the additional demand for these services that will be required by the contingency modeling enhancements and the flexible ramping product – the potential for inefficient and detrimental market impacts resulting from withholding ramp could be more severe. DMM recommends that the option to bid in a resource's ramp rate be eliminated prior to implementing any additional market constraints or products that require and value capacity or ramping energy. This will still leave two venues for adjusting a resource's ramp rates: the Master File, which facilitates slower moving or anticipated changes; and SLIC, which can be used in the event there is an abrupt and temporary change in the physical ability of a resource to ramp.

Updating the Dynamic Competitive Path Assessment (DCPA)

This market initiative introduces both an additional product that competes for available ramping energy as well as additional constraints in the market optimization. These additions require adjustment to the existing local market power mitigation (LMPM) process.¹ DMM believes that the existing LMPM framework can be adjusted to accommodate the new product and constraints without major revision.

For existing (preventative) constraints, the additional demand for ramp from meeting the corrective capacity requirements potentially reduces the effective supply available to manage congestion on these constraints. This may reduce the competitiveness of supply of energy. To account for this, the calculation for the residual supply index in real time will be adjusted such that the amount of corrective capacity procured from internal resources in the mitigation run is not available as supply of counter-flow. The calculation is not adjusted in the day-ahead process because of the increased capacity that may be dispatched by the market. This is consistent with the treatment of the ancillary service requirements in the calculation of the residual supply index.

Under the existing LMPM framework, if the preventative constraint is not binding it will not be tested for competitiveness. However, a corrective constraint can create a re-dispatch that reduces the flow on the preventative constraint below its limit. Thus, with the addition of correct constraints, even if congestion does not occur on a preventative constraint there still may be an uncompetitive supply of counter-flow for the preventative constraint. In this circumstance, the corrective constraint will be binding and will have a positive impact on the energy LMP of effective counter-flow resources through the congestion component of the energy LMP.

To address this situation, the LMPM framework needs to be expanded to include evaluation of the competitiveness of corrective constraints jointly considering counter-flow to the preventative constraint as well as corrective capacity. For corrective constraints, both the demand and residual supply calculations need to be adjusted to account for the joint procurement of energy and capacity to meet the corrective constraint. DMM will provide a more detailed description of proposed changes to the existing LMPM in the next policy paper.

When binding, the corrective constraint may have an impact on the energy LMP of effective resources and produce a positive congestion component even if the preventative constraint is not binding. When a binding corrective constraint is deemed non-competitive, its effect on the energy LMP of effective resources will be captured in the non-competitive congestion component when the LMP decomposition is performed. This will allow a binding non-competitive corrective constraint to trigger mitigation through the existing process without alteration to the mitigation trigger.

¹ For a detailed discussion on the methodology for the dynamic competitive path assessment see <http://www.caiso.com/Documents/RevisedDraftFinalProposal-DynamicCompetitivePathAssessment.pdf>.

DMM notes that the modifications described above are specific to the current proposal that does not allow for offer prices for corrective capacity.

Compliance Testing for Corrective Capacity

Due to the low probability of contingencies, resources providing corrective capacity will rarely have to deliver energy from this capacity. However, they will be relied upon to comply with the 30-minute reliability standards. The ISO will need to develop procedures for compliance testing of resources with corrective capacity awards similar to those outlined for AS and RUC capacity in Operating Procedure 5370² and in the CAISO Tariff, Section 8.9.³ Resources that cannot reliably supply the energy from reserves should not be able to supply corrective capacity or receive corrective capacity payments.

Additional Information on the Size and Scope of Corrective Constraints

DMM recommends that the ISO provide additional information on the corrective constraints (e.g. limits and corresponding corrective capacity reservation) compared to the preventive constraints. This will help market participants see how large or small the demand for corrective capacity/reduced line flows will be relative to the available supply of capacity effective on the constraint. The demands for corrective capacity will affect not only the corrective capacity payments, but will also affect energy LMPs directly through the contingency congestion costs and indirectly through effects on the available supply of capacity to provide energy. These effects may be small if the corrective requirements are small relative to the affected region, or may be larger if the corrective requirements are large relative to the affected region.

² Available at: <http://www.caiso.com/rules/Pages/OperatingProcedures/Default.aspx>

³ Available at: http://www.caiso.com/Documents/TariffSections1-10_Jun3_2013.pdf