

## Western Power Trading Forum comments on Third Revised Contingency Modeling Enhancements

Carrie Bentley  
Resero Consulting for WPTF  
916.565.7461  
cbentley@resero.com

Ellen Wolfe  
Resero Consulting for WPTF  
916.791.4533  
ewolfe@resero.com

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WPTF appreciates the opportunity to provide these comments on the ISO's Contingency Modeling Enhancements (CME) Third Revised Straw Proposal posted on November 20, 2015 and meeting held on December 10, 2015.

WPTF strongly supports the CME proposal to include the costs of maintaining N-1-1 transmission standards within the energy market. The proposal to account for system operating limits within the market model rather than through the Minimum Online Capacity (MOC) constraint or Exceptional Dispatch (ED) mechanism will increase market efficiency and price transparency. It also will better ensure reliability than current practice which relies on exceptional dispatch of resources that may be incorrectly positioned or unavailable. WPTF appreciates that this proposal allows the explicit payment to generators for having available capacity.

WPTF supports the ISO expanding the CME model for other reliability needs handled outside of the markets.

It would be beneficial to consider whether the CME logic could be applied to voltage support needs and be applied to areas through similar MOCs. The ISO has gone to significant expense to develop the capacity constraint and they are anticipating further market changes in the CRR model. Given the cost and effort expended, it seems beneficial for the ISO to maximize the mechanism's value by modeling as many quantifiable reliability needs within the market as possible through this added market constraint mechanism and to do so even within this first phase.

The ISO should consider alternative CRR/CCRR market designs.

WPTF appreciates that the current CRR market accounts only for energy congestion and not the added system cost for the new contingency capacity constraint. In order for the CRR model to allow CRR allocation up to the energy constraint MW limit and remain revenue sufficient, the ISO has proposed to include the shadow price of the N-1-1 constraint as part of the CRR congestion and then to create a "Capacity Congestion Revenue Right" (CCRR) to ensure revenue adequacy of CRRs that pay revenues inclusive of the N-1-1 shadow price. The ISO proposes to bundle counter-flow CCRRs with CRRs in the CRR allocation process and CRR market.

The CRR/CCRR proposal is complicated and has some significant downsides. It will be difficult to determine the value of a CRR in both the CRR nomination process and CRR market, an entity will not be able to fully hedge congestion, and the CRR market will get extremely complicated, particularly for entities considering joining the CAISO.

WPTF provides the following options and comments for ISO consideration:

1. It seems that a much more simplified option would be for the ISO to continue to use the CRR model only to hedge the conventional (energy) congestion caused by the thermal limit and N-1 contingency analysis. The CRRs would then not hedge the cost of the CME constraints. This would be akin to the fact that today's CRRs cover energy congestion, but not the loss components of LMP differences.
2. Alternatively, the ISO could completely separate the current CRR market into a CRR market and a CCRR market. The CRR market would only hedge the conventional (energy) congestion caused by the thermal limit and N-1 contingency analysis. The CCRR market would only hedge additional capacity costs from the N-1-1 contingency analysis – that is hedge the shadow price of the N-1-1 capacity constraint. The CRR market could run first in order to determine the CCRR market limits. This would allow both energy congestion and the CME shadow price cost to be more fully hedged, would simplify the proposal conceptually, and allow for full price transparency.
3. Another fundamental option is to derate the capacity used in the CRR allocation and auction processes to the level that can be supported by the N-1-1 cases. WPTF does not support this option as it appears the only practical way to model the N-1-1 case would be to restrict the energy limit in the CRR model to the N-2 limit. This alternative would significantly reduce the capacity on paths related to those for which the ISO would impose the N-1-1 constraints and so is less appealing than other alternatives, including the current proposal.
4. Finally, in response to an MSC suggestion at the 12/11 MSC meeting that CRRs and CCRRs could be bundled in the allocation process, but not in the CRR market, WPTF notes the following: although CRRs are allocated, there is still a nomination process and internal valuation process done by entities that receive CRR allocations. Therefore it is still important for entities to be able to value CRRs and CCRRs in the allocation process just as it is in the CRR market.

At this time WPTF supports the ISO developing multiple options in the next draft and allowing stakeholders to review the pros and cons of each option. Given the current information, WPTF is most supportive of Option (2) above and then Option (1).

WPTF does not support the ISO giving virtual supply or virtual demand corrective capacity awards. There are significant issues with allowing virtual supply and demand to provide corrective capacity. As noted by DMM during the December 10 meeting because virtuals are assumed to have an infinite ramp rate, they likely will be allocated a significant portion if not all the corrective capacity in the day-ahead. This likely will significantly decrease the corrective capacity payment to the virtuals. Then in real-time the virtuals would have to buy-back this capacity, which (higher) price would be set by physical generation. This would discourage virtual participation significantly and provide no additional market benefits.

It would be helpful for the ISO to provide additional details on which paths allow the corrective capacity to overlap with the spinning and non-spinning reserve product. WPTF appreciates that the paper includes a list of the paths that will have the corrective constraint; however, it would be helpful if the ISO described for each path why the corrective capacity may or may not overlap with reserve products.