

Submitted By	Company	Date Submitted
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CAISO request for input is in black Arial type.

NRG's response is in blue Times New Roman type.

First, we welcome any questions, comments, or suggestions on this straw proposal so that we can provide clarification points, guidance, or refine the proposal.

NRG strongly supports the CAISO's efforts in this initiative. First, NRG strongly supports developing mechanisms that meet reliability requirements through the CAISO's market optimization rather than outside of that optimization. It is far better for the CAISO to leverage the \$200 million spent on implementing its now four-year-old nodal market by building more reliability dispatch into that optimization than to continue to manage reliability through out-of-market mechanisms that have no impact on nodal energy prices.

NRG also strongly supports efforts to reduce the amount of Exceptional Dispatch ("ExD"). While some parties may point to the small volume of ExD (relative to the total amount of energy serving demand) to assert that such ExD volumes should simply be tolerated in perpetuity, ExD, by its very nature, confounds a primary purpose for which the CAISO invested \$200 million in a nodal market, namely, to ensure that CAISO market prices reflect *all of* the actions that must be taken to maintain a reliable bulk electric system.

NRG requests that the CAISO present its position on the interaction between corrective capacity and Capacity Procurement Mechanism designations. As NRG understands, the CAISO's position is that the act of submitting an energy bid associated with non-RA capacity effectively renders that capacity ineligible for a CPM designation. While a recent FERC order¹ indicated that the CAISO was not required to provide a backstop capacity designation if non-RA capacity was "dispatched" (presumably meaning if energy was dispatched from that capacity) when non-RA capacity was available, a principle underlying the December 2011 CPM settlement was that the CAISO would provide a CPM designation for the amount of non-RA capacity needed to address the reliability issue, independent of whether energy was dispatched from that capacity. Consistent with that principle, NRG requests the CAISO address the implications of a situation in which the CAISO obtained corrective capacity that was not RA capacity.

Second, we welcome alternative proposals and would like to see how the alternative is superior to the preventive-corrective constraint.

NRG supports the preventive-corrective constraint approach, and has no alternative to that approach to offer. While the preventive-corrective approach values the capacity that the CAISO will rely on to adhere to WECC standards, NRG is not yet persuaded that this approach will fully address the problem created by committing units at minimum load to provide corrective capacity,

¹ 143 FERC ¶ 61,300 (2013)

namely, that minimum load energy does not set price. The problem of minimum load energy not setting price could and should be addressed by another mechanism such as extended LMP.

Third, some stakeholders have proposed to allow bidding for provision of corrective capacity. The ISO would like to hear more arguments on why bidding should or should not be allowed under the preventive-corrective constraint. Detailed written explanations should include (but are not limited to):

Assuming bids are technically feasible:

What type of cost or lost opportunity would a bid signify?

Neither. Similar to the CAISO's existing ancillary services markets, a bid would signify the value of providing the service.

Would a bid be appropriate day-head, real-time, or both? Why?

While NRG would prefer to be able to bid in all markets, NRG notes that the CAISO is proposing to allow day-ahead bidding for the Flexible Ramping Product, so it would be consistent with that product to at least allow day-ahead capacity bidding.

What are potential bidding parameters (such as bid cap)? Why?

The most analogous bidding parameter would be the CAISO's \$250/MW cap on ancillary service bids.

Are there market power concerns with allowing bids and how can the ISO mitigate those bids?

Given that the CAISO is proposing to secure corrective capacity to address the eight *major* WECC rated transfer paths that the CAISO operates, it is possible that there would be a competitive pool of suppliers that could supply corrective capacity, and the CAISO would not need to apply any local market power mitigation. It is possible that, under the very stringent three-pivotal supplier test used to assess competitiveness, the pool of corrective capacity suppliers could be non-competitive under certain conditions. In that case, similar to how energy bids from resources that the CAISO deems have the potential to exercise local market power are treated, the CAISO would mitigate the capacity bids of those suppliers to a default level.

With regards to what the default capacity bid could be: the schedules to the RMR contract specify how to calculate "default" ancillary services bids; however, those schedules use unit-specific information, and NRG understands only one resource is currently subject to an RMR contract. Since resources would not be able to use individual RMR contract schedules to determine their default capacity bids, an alternate approach would be to direct Potomac Economics to calculate default capacity bids (based on typical information) that would apply to several categories of resource types using a methodology similar to the methodology set forth in the RMR schedules.

Given the above answers, how could ISO evaluate the cost-benefit analysis of including bid functionality? In other words, how much would the benefit be as compared to the added complexity of modeling bid functionality?

The CAISO can determine the cost of providing this functionality. Without knowing how market participants may bid, or how much corrective capacity the CAISO will require, it is not possible to quantify the benefit of providing this functionality a priori. One intangible benefit of providing bidding functionality would be for the CAISO to demonstrate its commitment to competitive markets to its market participants.

Fourth, the ISO proposes removing bid-in ramp rate functionality from the market. We believe this is no longer needed now that multi-stage generating resources are more accurately modeled. Removing the functionality would minimize gaming opportunities in the market and directly benefit the preventive-corrective constraint. As an exception, a resource could still change its ramp rate if it experiences a change in operating capability. We would like to hear from stakeholders on why the bid-in ramp rate functionality should be retained or removed, and potential inefficiencies or benefits from its removal.

NRG does not support the CAISO's proposal to eliminate a market participant's ability to bid in the unit's ramp rate. Master file ramp rates should reflect a unit's maximum capabilities, but a resource owner may not want its unit to be required to perform at those maximum capabilities at all times. An owner can manage risk by bidding in a ramp rate below the maximum capability of its unit. If the CAISO eliminates this bidding capability, resource owners may seek to manage risk by reducing the unit's ramp rate in the CAISO's master file.

The **fifth** topic is a broad consideration of the exercise of local market power and potential manipulation of capacity-based mechanisms such as the preventive-corrective constraint, ancillary services, and the flexible ramping product. We encourage feedback from stakeholders on these issues.

See responses above.

The **sixth** topic is cost allocation. Since the reliability standard is a WECC-wide concern, the current ISO understanding is that costs should be allocated to all load. The ISO would like to hear more detailed arguments for or against this proposal.

The preventive-corrective approach will produce nodal-specific capacity and energy prices that will be paid to suppliers. As with the current market, these payments should be collected from load. As the CAISO correctly notes, the preventive-corrective algorithm does not introduce a heretofore unknown reliability paradigm – a paradigm that warrants a re-examination of how reliability costs are allocated. Instead, this algorithm provides that the costs of maintaining capacity in particular locations are compensated for and collected, to the maximum extent possible, through market prices. If anything, the preventive-corrective approach to reliability would suggest re-examining the aggregation of nodal prices paid by load, since nodal energy (and capacity) prices will now, to an even greater extent, reflect the costs of ensuring reliability at specific locations in the bulk power network. However, the issue of load aggregation is such a politically weighted issue that NRG is not proposing to link load aggregation pricing with the implementation of the preventive-corrective approach.