

**Department of Market Monitoring Comments: Commitment Costs and Default Energy Bid Enhancements**

Revised Draft Final Proposal Section #	Department of Market Monitoring Comments Page #	Department of Market Monitoring Comment	ISO Management Response
5.2.1 Dynamic market power mitigation enhancements	Pages 17-18	<p>“... The ISO’s new commitment cost mitigation procedures do not mitigate the commitment costs of uncommitted resources appropriately. In many situations, this will result in the automated mitigation processes failing to mitigate economic withholding by a supplier who has a portfolio of resources with local market power (e.g. bidding lower cost units at a higher price, so that a unit with a higher commitment and/or energy cost unit must be dispatched).</p> <p>...The ISO is only proposing to mitigate committed resources that are effective against a non-binding constraint. As a result, a supplier whose portfolio of resources has market power due to a particular constraint could economically withhold its lower cost resources in order to get the software to commit a higher cost resource.</p> <p>By bidding its lower cost resources at the 250 percent market based commitment cost cap and its highest cost resource at a slightly lower bid, the supplier could ensure that those low costs resources are not committed, and therefore not mitigated, while its most expensive resource gets committed with mitigated commitment cost bids at 125 percent of estimated costs. The supplier would have</p>	<p>Management proposes only to mitigate committed resources that are effective against non-binding transmission constraints. This is because non-binding constraints do not create local market power that would enable a resource to set energy prices. This is different from the situation with binding constraints where a non-committed resource could inflate local energy prices and for which management proposes to mitigate both committed and uncommitted resources.</p> <p>When non-binding constraints are involved, Management proposes, and the Market Surveillance Committee concurs, that since the ISO only pays committed resources for commitment costs, it is appropriate only to mitigate the commitment costs of resources actually committed.</p> <p>Although, DMM’s hypothetical example that a supplier might try to inflate the commitment costs of one resource to get another resource committed to earn a slightly higher margin on its mitigated commitment costs could conceivably occur, Management believes an important benefit</p>

		<p>an incentive to execute this form of economic withholding in order to receive the 25 percent profit margin on the largest cost basis possible."</p>	<p>of its proposal is to avoid committing resources at costs below their actual costs. Thus, in this situation, the ISO believes it should provide a supplier the ability to submit bids based on its own cost estimates so that the ISO market does not commit its resource below cost.</p>
<p>5.2.1 Dynamic market power mitigation enhancements</p>	<p>Page 19</p>	<p><b>STUC optimization example:</b>          "...Therefore, If at T-75 a resource submits bids of \$1,000/MWh for all energy above pmin up to its pmax for the upcoming hour and bids of -\$150/MWh for its energy above pmin for the subsequent three hours considered by the upcoming STUC run, the -\$150/MWh energy in future hours will make the resource appear inexpensive to keep committed. This will be true even if the supplier has submitted very high market-based minimum load cost bids all four hours. When the next set of real-time energy bids are due at T-75 before the second hour, the supplier can change its energy bids for that hour to \$1,000/MWh while submitting energy bids of -\$150/MWh for the subsequent three hours considered by the upcoming STUC run."</p>	<p>While this could conceivably occur, Management believes this would be blatant manipulative behavior with no legitimate purpose and the ISO or DMM would refer this to FERC.</p>
<p>5.2.1 Dynamic market power mitigation enhancements</p>	<p>Page 21</p>	<p><b>Pmin re-rates:</b>          "If the ISO uses a value other than the DEB for incorporating the costs of pmin rerates, this can create BCR gaming opportunities. This is particularly true for resources that have a minimum run time. Suppose it is economic to commit the resource with energy bids near cost, and a minimum load cost bid at 175% of reference levels. In the hours in which the resource is dispatched at pmin, it may be able to use a pmin rerate to increase its BCR. The resource may be able to rerate its pmin to a higher level, and force dispatch and cost recovery of the DEB costs scaled by 175% for the entire range of the rerate. At that time, the market software will not decommit</p>	<p>Scaling the DEB cost by the same percentage the resource's minimum load bid is greater than its minimum load reference level is appropriate. In DMM's example, the resource's minimum load cost would have been accepted by the market under competitive conditions. Consequently, the DEB cost used to adjust the resource's minimum load cost during the pmin rerate should be adjusted by the same percentage.</p> <p>In any case, the tariff prohibits suppliers from temporarily increasing a resource's minimum load ("Pmin rerate") for other than physical or</p>

		<p>the resource. No rule seems to exist in the revised proposal to prevent this form of BCR manipulation. Capping cost recovery at DEB for pmin rerates would mitigate this form of intertemporal market power”</p>	<p>environmental reasons. It would be a tariff violation for a supplier to temporarily increase a resource's minimum load to inflate bid cost recovery uplift payments and a clear basis for a referral at FERC.</p>
<p><b>5.2.3 Mitigate exceptional dispatches commitment costs</b></p>	<p>Page 20</p>	<p>DMM contends this proposal leaves significant gaps in the ISO's ability to mitigate market power exercised through operator-initiated commitments.</p> <p>Example of gap: "First, even if operators log an Exceptional Dispatch commitment as being for a competitive reason and operators have several generators to choose from when issuing an Exceptional Dispatch, DMM's experience is that they often have very limited ability to compare costs and select the least costly option..."</p>	<p>Management proposes to mitigate resource's commitment costs when exceptionally dispatched under the same categories of conditions for which the ISO mitigates resource's energy bids today under exceptional dispatches. FERC has in the past stated that the ISO can only mitigate exceptional dispatch payments when dispatched to relieve uncompetitive constraints in the market and that the ISO should only request for additional mitigation of exceptional dispatch if the ISO has gathered "evidence to demonstrate the potential to exercise market power for specific instances of Exceptional Dispatch." At this time, the ISO and DMM have not gathered evidence that supports expanding the current categories of mitigation.</p>
<p><b>5.3.2 Formulate energy cost reference levels</b></p>	<p>Page 23</p>	<p>"...The ISO clarifies that this statement applies to supply resources that are currently exempt from market power mitigation such as Participating Load, Reliability Demand Response Resources, Proxy Demand Resources, and Non-Generating Resources. The ISO has not defined the criteria that will be used to determine reference levels for these types of resources that are currently exempt from market power mitigation."</p>	<p>As under existing rules, the ISO market will not use reference levels for these resources as they are not subject to local market power mitigation. Although the Management clarifies, that FERC has recently granted the ISO authority to generic non-generating resources in some cases and does not propose to changes to this rule in this initiative.</p>
<p><b>5.4.1 Support verified ex ante reference level adjustments</b></p>	<p>Page 24</p>	<p>Supporting documentation for requests: "For example, the revised proposal does not specify that fuel price quotes must come from unaffiliated entities. Affiliated entities may have the incentive to provide a supplier with artificially high fuel price quotes that could allow a supplier to exercise market power through the volatility scalar. Quotes from affiliated entities should</p>	<p>Management plans to define this level of detail in implementation-level documentation.</p>

		<p>therefore not be considered appropriate supporting documentation. ."</p>	
<p>5.4.1 Support verified ex ante reference level adjustments</p>	<p>Page 24</p>	<p>"There may also be some ambiguity in how the ISO defines "actual current information" that must be used as supporting documentation. In the context of the list of appropriate supporting documentation that the ISO provides, DMM interprets "actual current information" to mean information that verifies that prevailing fuel (or fuel equivalent) market prices exceed the estimates used in ISO reference levels. DMM asks that the ISO further clarify that this interpretation is correct, and that suppliers cannot use historical information to support reference level adjustment requests (e.g. 'intra-day gas prices were 20 percent higher than the next-day index last Tuesday, so I expect intra-day gas prices to be 20 percent higher than the next-day index this Tuesday as well')."</p>	<p>Management confirms this is correct.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 3</p>	<p><b>Reasonableness threshold -</b> "These fuel volatility scalars will be static values incorporated in the ISO tariff. Because these new fuel volatility scalars are static, this will make bid caps used in mitigation too high most days (i.e. when the scalars exceed the actual variation in gas prices), while making bid caps too low on the few days each year when gas prices in the same day market jump significantly above next-day gas market prices. This very static approach is contrary to the key objective the ISO set for this initiative – i.e. to make bids used in real-time mitigation more reflective of actual marginal costs."</p>	<p>The allowance for fuel volatility in the reasonableness thresholds is not a "safe harbor" that suppliers can bid up to irrespective of their actual costs. Management's proposed reasonableness thresholds are merely an additional safeguard the ISO will use for automatically screening reference level adjustment requests. The rules will specify that suppliers must only request reference adjustments based on documented costs. Management is proposing audit authority to be able to verify this and proposes specific sanctions for unjustified reference level adjustment requests.</p>

<p>5.4.2 Support ex ante verification</p>	<p>Page 7</p>	<p>"Unlike resources in the ISO's California footprint, some EIM participants may need to procure gas from hubs that are not as liquid and for which ICE gas market data may not be available. The ISO should establish a way for these participants to request a special adjustment to the reasonableness threshold on days when gas supplies are limited and only available at prices higher than the static 10 percent/25 percent reasonableness threshold proposed by the ISO."</p>	<p>What DMM is advocating would require significant new manual processes to be established by the ISO. Management proposes its automated reference level adjustment approach based on balancing suppliers' ability to adjust reference levels versus the additional staffing and associated costs that would accompany a manual review process that would be needed to fully accommodate any gas volatility. Such a manual review process may also be prone to errors.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 11</p>	<p>"The ISO proposal appears to indicate the fuel volatility scalar will be applied to the day-ahead market, as well as the real time market. The ISO provides no justification for this, given that the ISO's proposal includes making the updating of gas prices used in the day-ahead market based on next day gas market data from ICE each morning permanent. As shown in Figure 3, this enhancement has made the gas price index used in the day-ahead market a highly correlated indicator of the price of gas in the next day market corresponding to each operating day. It is unclear why an additional fuel volatility adder would be routinely needed in the day-ahead market."</p>	<p>The fact that actual "next-day" gas prices are usually closer to the index the ISO uses for the day-ahead market than "same-day" gas prices are to the index the ISO uses for the real-time market doesn't obviate the need to for suppliers to at times adjust the reference levels the ISO uses for the day-ahead market.</p> <p>As described above, the allowance for fuel volatility in the reasonableness thresholds is not a "safe harbor" that suppliers can bid up to irrespective of their actual costs.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 13</p>	<p>"The ISO's revised proposal indicates that the default values for the reasonableness threshold (25 percent on Mondays, 10 percent other days) will be in the ISO tariff. However, the proposal also states that in order to deter market power and manipulative behavior "the California ISO will not provide these values to suppliers." The ISO should clarify these apparent inconsistencies."</p>	<p>The statement was correct for the reasonableness thresholds the ISO calculates for the day-ahead market as the ISO does not publish the day-ahead indices it uses. It does publish the gas price indices it uses for the real-time market. Consequently, a supplier could conceivably calculate its real-time market reasonableness threshold unless the ISO makes resource-specific adjustments to a resources reasonableness threshold. In any case, the rules will specify that suppliers must only request reference adjustments based on documented costs. Management is proposing audit authority to be</p>

			<p>able to verify this and proposes sanctions for unjustified reference level adjustment requests.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 5</p>	<p><b>Real-time gas price information :</b> "Since 2015, DMM has been recommending that the ISO utilize same day gas market information that is available each morning to update gas prices used in calculating bid caps and/or setting the new reasonableness thresholds used in mitigation. DMM's proposed procedure would essentially eliminate the occurrence of same day trades in excess of the 10 percent of gas prices that would be used for real-time market mitigation."</p>	<p>The ISO is not proposing to use same day gas information for the real-time market the following reasons:</p> <ul style="list-style-type: none"> <li>• The ISO recently made a change to use an index obtained from ICE obtained between 8-9 am for use in the day-ahead market. When FERC approved this change, FERC ordered that the index information the ISO uses has to conform to their "Policy Statement on Natural Gas Price Indices." This is the case for the index information the ISO uses for the day-ahead market, but not for the same-day trading information on ICE that DMM recommends the ISO use.</li> <li>• Even if FERC would allow the ISO to use the same-day trade information from ICE to calculate an ISO specific index, this would entail significant manual work.</li> <li>• ICE real-time trades are illiquid and may not be representative of a supplier's actual gas costs. The supplier is in a much better position to estimate its costs.</li> </ul> <p>Using the ICE real-time trade information could be useful as a data point if Management were proposing to review adjustment requests manually</p>

			<p>(Management is only proposing manual review for energy bids above \$1,000 as required by FERC 831). Using the ICE real-time trade information as a data point in a manual process would not conflict with the FERC index policy because the ISO would not be automatically incorporating it into a bid cap. Management proposed an automated process for commitment cost bids and energy bids below \$1,000 rather than manual review because manual review would be very labor intensive and the reasonableness thresholds Management proposes capture most instances.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 6</p>	<p><b>Feedback loop term –</b> "...DMM requests further clarification of this potentially important feature. For example, would the terms be set to capture the upper end of any costs incurred (e.g. with a relatively low probability) or would they be based on the expected value (e.g. mean or median) of the range of costs incurred in excess of the fuel cost used by the ISO?"</p>	<p>Management plans to define this level of detail in implementation-level documentation. The policy intent is to use resource-specific adjustments (i.e. "feed-back loop term") to resources' reasonableness thresholds so that their volatility is captured to the same extent the standard 110%/125% scalar captures other resource's cost volatility.</p>
<p>5.4.2 Support ex ante verification</p>	<p>Page 7</p>	<p>"DMM also questions the need for this new resource specific feedback loop, given the negotiated option of the ISO tariff. Currently, suppliers can already request a customized default energy bid under the negotiated option of the ISO tariff which reflects any additional costs they can demonstrate are routinely incurred. The revised proposal extends the negotiated option in the ISO tariff to include commitment cost reference levels. With this new negotiated option, "suppliers would be able to seek consideration of tailoring its reference level to reflect more complex cases than a generic reference level formula could." Thus, it seems any systematic cost differences identified in this resource specific feedback loop would be incorporated in the negotiated option for commitment cost and default energy bids."</p>	<p>Management believes resource-specific adjustments (i.e. "feed-back loop term") to resources' reasonableness thresholds is the more appropriate way to handle resources whose fuel costs are systematically different than the gas-price index the ISO uses. The ISO will use reasonableness thresholds to screen reference level adjustment requests, which the supplier must base on documented costs. Incorporating the systematic gas-price difference into a negotiated reference level would provide the supplier with a "safe-harbor" to bid up to the reference level, irrespective whether it based the bid on documented costs.</p>

<p>5.4.3 Support ex post cost recovery</p>	<p>Pages 24-25</p>	<p>"The ISO proposes that all ex post review of requested reference level adjustments be based on actual incurred costs. These reference level adjustments would apply to resources that have been determined to have market power. Allowing resources with market power to recover any incurred costs presents several behavioral issues that can lead to market inefficiency...</p> <p>...The ISO proposes to only approve the recovery of these costs if the fuel had to be procured immediately due to constrained fuel supply conditions. DMM appreciates that this provision will help to mitigate the extent to which the ex post recovery of incurred costs can lead to inefficient fuel procurement and inappropriately inflated reference levels. However, the ISO's proposal still seems to allow market participants to recover any incurred cost under these conditions, regardless of whether or not the incurred costs deviated significantly from observed fuel market prices and conditions. Depending on the details of how the feedback loop is implemented, this proposal could therefore allow entities with market power to manipulate their future reference levels through intentionally high priced fuel procurement during days when gas companies require daily balancing."</p>	<p>A supplier's ability to document actual costs is unrelated to its market power. A supplier with market power should not be equated with being prone to rule manipulation or submission of false information. The policy states that costs have to represent reasonable procurement. The costs submitted for <i>ex post</i> cost recovery cannot be higher than what the supplier requested as part of its <i>ex ante</i> reference level adjustment request, which had to be based on actual documented fuel market prices.</p>
<p>5.4.3 Support ex post cost recovery</p>	<p>Page 25</p>	<p>"In the revised proposal, the ISO also proposes to not approve ex post recovery of fuel costs incurred before "the market that produced relevant award". DMM recommends that ISO reconsider this element of the ex post cost recovery policy."</p>	<p>Management clarifies that for day-ahead market, procurement after the D+2 advisory results would not be considered to be before the market that produced the relevant award and, as such would be eligible for ex post cost recovery.</p>

<p><b>5.4.3 Support ex post cost recovery</b></p>	<p>Page 26</p>	<p>"...DMM requests that the ISO provide more detail on how this process would work, including proposed timelines for a typical request and any standards that can be used to verify costs in real time. The standards to be followed for constructing a reference level adjustment are included in Appendix D of the revised proposal, but exactly how this would feed into a real time request is not clear. Is the ISO proposing that whoever has the authority to perform the manual consultation should be able to receive and review the documentation before the market runs in order to approve a new reference level? Details on this process will be very important to determine how well it can be used, how effective it is, and to what degree the process might be subject to inaccuracies, gaming or manipulation..."</p>	<p>Management plans to define this level of detail in implementation-level documentation. For the manual consultation for energy costs greater than \$1,000/MWh, the ISO would require the same documentation it would look at if it audited any reference level adjustment request.</p>
<p><b>5.4.4 Re-calibrate penalty price parameters</b></p>	<p>Pages 8 &amp; 9</p>	<p>"...However, the proposal indicates that it is acceptable – if not encouraged – for suppliers to increase the commitment cost reference levels and default energy bids to reflect scarcity of fuel supply and the full cost of potential gas imbalance penalties... DMM requests that ISO explain the logic of allowing gas risk adders reflecting potential gas penalties into reference bid adjustment requests, but not into negotiated bids or actual costs recovered. Under the ISO’s revised proposal, it appears that bids will be allowed to automatically increase by about 10 percent (the default reasonableness threshold for most units on most days) whenever an OFO is in effect. Is the intent of this to allow reference levels to increase by about 10 percent when OFOs occur as a method to allow resources in gas constrained areas to increase their bids to move them up in the supply stack (i.e. similar to the Aliso gas price adders)? If so, a much better way to do this is to simply allow the ISO to dynamically increase the threshold to reflect actual same day gas market prices, as proposed by DMM. On days when gas conditions are constrained,</p>	<p>Yes, Management’s intent is to allow reference levels to increase by about 10 percent when OFOs occur as a method to allow resources in gas constrained areas to increase their bids to move farther down in the supply stack (i.e. similar to the Aliso gas price adders). The higher bids will cause the market to dispatch resources away from constrained gas regions. The ISO would only make <i>ex ante</i> adjustments for this situation to the extent the request passed the automated reasonableness criteria.</p>

		<p>this approach would allow reasonableness thresholds higher than the static 10 percent/25 percent levels proposed by the ISO when needed and appropriate..."</p>	
<p>5.4.4 Re-calibrate penalty price parameters</p>	<p>Page 9</p>	<p>"...Is the intent of this to allow reference levels to increase by about 10 percent when OFOs occur as a method to allow resources in gas constrained areas to increase their bids to move them up in the supply stack (i.e. similar to the Aliso gas price adders)? If so, a much better way to do this is to simply allow the ISO to dynamically increase the threshold to reflect actual same day gas market prices, as proposed by DMM. On days when gas conditions are constrained, this approach would allow reasonableness thresholds higher than the static 10 percent/25 percent levels proposed by the ISO when needed and appropriate."</p>	<p>Management believes <i>ex ante</i> adjustments are appropriate to decrease the chance that the ISO market will dispatch a resource and cause it to violate an OFO. Management does not consider gas penalties in after-the-fact reimbursement because recent FERC orders (NYISO) forbids this as it would undermine the gas system penalties. Management does propose to consider the high gas purchase costs that accompany stressed gas system conditions in the <i>ex post</i> cost recovery process</p> <p>As described above, Management believes several factors prevent it from adjusting resource reference levels as DMM suggests based on same-day gas trading information on ICE.</p>
<p>Appendix</p>	<p>Pages 27-28</p>	<p>"Appendix C introduces changes to reference commitment cost calculation in equations for proxy cost calculation that are not included in the proposal itself. Although these changes may have been introduced inadvertently and were not discussed in the stakeholder process, DMM recommends clarifying these apparent changes before the proposal is presented to the Board for approval and before implementation work by ISO teams proceeds further.</p> <p>1. Non-gas minimum load greenhouse gas cost calculation: The equation for greenhouse gas cost</p>	<p>Management plans to define this level of detail and correct any errors in the implementation-level documentation.</p>

calculation listed for non-gas resources in the text box on page 50 includes HEAT\_AVG\_COSTPoint1. Current practice for greenhouse gas cost calculation for non-gas resources in the ISO has relied on heat rate rather than HEAT\_AVG\_COST curves. DMM recommends relying on heat rates rather than HEAT\_AVG\_COST curves, as doing so allows non-greenhouse gas cost related components to be excluded from the calculation.

2. Inclusion of start opportunity cost in minimum load cost calculation: The table on page 51 of the draft final proposal lists both calculated opportunity cost for eligible start limitations and negotiated opportunity cost for eligible start limitations as inputs to minimum load cost calculations. The introduction of start-up opportunity costs rather than minimum load opportunity cost to the minimum load cost calculation appears to have been unintentional.

3. Start-up cost reference level calculation should include start-up fuel cost rather than being defined as a function of itself: In the second box on page 51, start-up costs are defined as a sum of terms including start-up costs. DMM recommends that start-up costs be defined as a sum of terms including start-up fuel costs rather than start-up costs.

4. GMC Adder calculation: The text box on page 51 of the Draft Final Proposal defines GMC as a function of the start-up time of point 2. This formula is inconsistent with the Market Instruments BPM and the CAISO tariff. Current BPM and tariff definitions state that the fastest Start-Up Time Period registered in the Master File will be used in this calculation, regardless of segment. DMM recommends that the ISO revise this equation, if this change to GMC calculation was introduced inadvertently.

	<p>Variable Indexing in Appendix E</p> <p>DMM believes that several mistakes have been made in the variable definitions and descriptions in Appendix E. In descriptions in Table 6 several references are made to resource r, while the corresponding variables being defined reference resource i. For example, the variable is defined as “Maximum operating level of resource r where P<sub>maxi</sub> is regulation P<sub>max</sub> if on regulation otherwise operational P<sub>max</sub>. Note – for MSG plants these are plant level maximums and derates.” DMM is not clear if this is a typo and the descriptions are meant to reference resource i or if, as is written in the proposal, the variables serve to relate two different sets of resources, i and r. The meanings of the defined variables changes significantly depending on the answer.</p> <p>In DMM’s experience, documents such as Revised Draft Final Proposals can be important reference materials for implementation teams that may not have been involved in designing the proposal. Therefore, it is important that all details like this are properly and clearly specified. DMM requests that the ISO review the tables and definitions in this appendix and correct any errors found.”</p>	
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