Comments on Draft Final Proposal for Commitment Cost and Default Energy Bid Enhancements

Department of Market Monitoring

September 12, 2017

DMM has submitted extensive comments and recommendations in this stakeholder process. [1] The Draft Final Proposal addresses some of these concerns, questions and recommendations, but still requires significant further clarification and modification. The ISO has requested that DMM be more specific about our questions and concerns with the Draft Final Proposal, and which parts of the proposal need further detail or clarification. In these comments, we have therefore focused on providing more detailed questions and highlighting specific parts of the proposal need further detail or clarification.

DMM has already presented some of its concerns about what we feel are key flaws in the approach for dynamic mitigation of commitment costs described in the Draft Final Proposal at the September 8 MSC meeting.[2] At that meeting, it appeared to DMM that the MSC agreed with many or most of the specific flaws in the Draft Final Proposal highlighted by DMM.

Our general concerns include the following:

1) Under the ISO's proposal, the ISO will continue to rely on lagged gas price data from the next day market, rather than the most recent next day and same day gas market data available to the ISO. This creates an unnecessary need for participants to request adjustments for gas prices in excess of the next day prices used by the ISO.

2) The standard statistical formulas in the Draft Final Proposal to be used in determining gas prices used in assessing the reasonableness of bid costs on an *ex ante* and *ex post* basis appear extremely high, and would significantly weaken protections against market power, gaming and manipulative bidding and scheduling practices.

[1] http://www.caiso.com/Documents/DMMComments-CommitmentCostsandDefaultEnergyBidEnhancementsIssuePaper.pdf ; http://www.caiso.com/Documents/DMMComments_CommitmentCosts_DefaultEnergyBidEnhancementsStrawProposal.pdf ; http://www.caiso.com/Documents/DMMComments_CommitmentCosts_DefaultEnergyBidEnhancementsRevisedStrawProposal.pdf; http://www.caiso.com/Documents/AdditionalDMMComments_CommitmentCosts_DefaultEnergyBidEnhancmentsIssuePaper.pdf ; http://www.caiso.com/Documents/DMMComments_CommitmentCosts_DefaultEnergyBidEnhancementsWorkingGroupMar30_Apr202017.pdf

[2] http://www.caiso.com/Documents/DynamicCommitmentCostMarketPowerMitigationDiscussion_DMM.pdf

3) The proposed approaches for assessing the reasonableness of bid costs on an *ex ante* and *ex post* basis appear to require data that may be unavailable, insufficient or inappropriate for participants in many EIM areas.

4) The details of how dynamic mitigation of commitment costs will be performed are flawed and/or incomplete. The proposal includes a flawed approach for determining mitigation associated with transmission constraints, and includes minimal consideration of the p**o**tential for manipulation of bid cost recovery payments.

5) DMM believes that once flaws in the approach for determining mitigation associated with transmission constraints in the Draft Final Proposal is addressed, the ISO needs to spend additional time consideration of the potential for gaming and manipulation of bid cost recovery payments (e.g. due to the interaction of various software issues and limitations and resource constraints – particularly for MSG units). DMM believes the potential for this would be greatly increased by allowing commitment cost bids significantly higher than the current 125 percent caps, in conjunction with the ability to change commitment cost bids hourly.

The remainder of these comments provide a detailed set of questions that would help DMM and stakeholders determine what the appropriate next steps for development of the proposal are at this time.

Reasonableness threshold used in ex ante verification

1. The Draft Final Proposal (p.97) states that:

   CAISO proposes the reasonableness threshold should be a threshold calculated to represent a statistically reasonable delta of observed consummated deals relative to the next day indices used to set its reference level calculations that factors in a feedback loop that is resource-specific.

   As an initial step - the CAISO will produce four thresholds associated with resources: day-ahead threshold, day-ahead Monday threshold, real-time threshold, and real-time Monday threshold. Thresholds will be calculated seasonally to represent the difference between observed consummated deals compared to the fuel regions' next day gas indices. Thresholds will be based on historical data for the same season over the past three years accounting for the removal of outliers.

   1.1 Can the ISO provide an example of what would be considered an outlier based on ICE trade data that the ISO has? Will this be left up to the discretion of the person doing this calculation?

   1.2 Has the ISO done any analysis to determine the appropriateness of calculating thresholds seasonally based on data from the same months over the prior three years?

2. The Draft Final Proposal (p.97) states that:

   For day-ahead threshold, the CAISO will calculate seasonally a statistical expectation of the delta between the highest same-day or intra-day consummated deal observed on Intercontinental Exchange versus the next day gas index used in its day-ahead market processes (i.e. gas day with flows beginning morning of its day-ahead market run).

   2.1 Do "same-day" and "intra-day" refer to the same thing in this description?

   2.2 Why the highest same-day or intra-day consummated deal on ICE be used for the threshold used in the day-ahead market?

3. Can the ISO clarify what it means by "a statistical expectation of the delta …" ? Is this the average of the values in the data set? Is it the highest value in the date set? Or is to some point in between (e.g. some pre-set percentile)?

4. Can the ISO provide examples of the calculation of the reasonableness threshold for gas resources (e.g. using actual historical ICE gas data?)

5. The Draft Final Proposal (p.97) states that:

   For non-natural gas units, these thresholds will be calculated for the 'CISO' fuel region and used as benchmark for ex ante verification of non-natural gas requests.

   Why would thresholds for non-natural gas requests be based on gas price data for 'CISO' gas fuel region?

6. Can the ISO provide examples of the calculation of the reasonableness threshold for non-gas resources?

7. DMM believes very limited "same day" and/or "intra-day" ICE data will be available for fuel regions applicable for many EIM areas. If this is the case, will this approach still be applied using whatever same-day intra-day ICE data are available?

8. According to slide 49 of the corresponding stakeholder call presentation ("…where reasonableness threshold is resource-specific percentage times the resource's commitment cost reference level"), the percentage that establishes the reasonableness threshold will be multiplied by the entire proxy cost calculation.

   8.1 Can the ISO confirm that this is correct?

   8.2 Can the ISO provide evidence that all the costs in the cost calculations have similar levels of volatility as the fuel component? In particular, why would there be any volatility around major maintenance adders?

   8.3 Is the reasonableness threshold multiplier applied to the base reference level before the 1.1 multiplier, after it, or instead of it?

9. The Draft Final Proposal refers to a "feedback loop that is resource-specific" that can result in adjustments to the standard statistical formula for the reasonableness thresholds described in the proposal (p.97). The description of this feedback loop is as follows (p.97):

   > As a final step – the CAISO will incorporate a term capturing a feedback loop from the ex post verification processes. If CAISO successfully verifies supplier ex post and through that process learns that the supplier bears burden of risk of higher costs relative to the thresholds that can be determined based on delta between ICE same-day, intra-day, Monday-only deals and the published indices, CAISO will include an error term that will allow CAISO to tune a fuel-region level threshold to each resource by biasing the threshold.

   How will the ISO determine when a resource is deserving of an adjustment to its reasonableness threshold via the feedback loop? For a resource that receives an adjustment via the feedback loop feature, is there a basic formula will be used to determine the exact level of the adjustment?

10. Does the ISO think that the feedback loop should be separate for day-ahead and real-time or the same?

11. Is there any process by which a feedback loop might result in a <u>lowering</u> of the standard statistical formula for the reasonableness thresholds described in the proposal for one or more resources?

12. Is the reasonableness threshold constant across the day for a specific resource? If so, how will the ISO prevent the feedback loop feature from incorporating penalty costs that resources may frequently encounter for real time dispatches in the latter hours of the day? Incorporating these into the feedback loop may allow resource DEBs to include penalty costs during all hours of the day.

13. On P.96, the Draft Final Proposal states that "CAISO will … perform an audit on frequently submitted and ex ante approved adjustments." Does the CAISO plan to audit all ex ante approved adjustments? If not, how will the candidates for audit be chosen? How will the ISO define frequently submitted?

Reference level adjustment process

14. The proposal appears to indicate that requests for adjustments to reference levels (for both energy and commitment cost bids) for gas fired units will be made by the participant submitting the total reference level being requested (in $/Mw, $/start or $/transition) (e.g. p.96). *Can the ISO confirm that the ISO system would not be designed to allow requests to be made directly in terms of a different gas cost (e.g. which would then be used you the ISO to calculate updated commitment cost bids or DEBs?).*

15. The description of the method used to calculate thresholds used to perform automated pre-verification for gas units seems to suggest this will be done based on analysis of historical gas prices. (p. 94) Please confirm.

16. If participants with gas units request adjustments in terms of total $ (e.g. $/MW, $/start or $/transition), but the thresholds used to assess the reasonableness of this is based on gas costs, how would the thresholds be applied? Will the ISO convert some threshold for gas costs into some threshold for total bid costs? If so, how will this be done?

17. Will the ISO also determine separate thresholds for other components of bid costs (variable O&M, MMAs, opportunity cost adders) to be used in assessing the reasonableness of reference bid adjustments and pre-verifying these? If so, what criteria or basic approach will be used?

18. Is there any deadline after which an entity could not submit a request for a reference level adjustment? Can the entity request adjustments throughout the operating day?

19. The proposal seems to preclude an entity asking for pre-verification of any reference adjustment that exceeds the reasonableness thresholds set in advance by the ISO. Please confirm.

20. Will there be any deadlines after which the ISO or DMM could not make any further adjustments to the thresholds used in automated pre-verification? Could the ISO or DMM make any changes to the thresholds during the operating day?

21. In section C of the proposal (starting on p. 86) several details of cost calculations are different than what DMM understands as the current policy. Can the ISO clarify whether it is proposing the following alterations:

    21.1 Multiplying the DEB Adder and the GHG cost by the 110% scalar, contrary to current policy of adding these each in after the scalar is applied?

    21.2 Basing GHG cost on average heat rate from master file and not on incremental heat rate?

    21.3 Using STARTUP_RAMP_TIME to calculate GMC adder for startup costs instead of basing it on STRT_STARTUP_TIME (at segment = 1 denotes hot start-up time)?

22. Under the ISO's proposal, assume a unit that has a minimum load proxy bid of $50/MW submits a reference level adjustment for a cost-based minimum load bid of $75/MW and a market minimum load bid of $80/MW. If the reasonableness threshold for the units minimum load bids is 125% (e.g. $62.50), what is the final minimum load reference bid used in the market run? Is it capped at the $62.50/MW (as suggested on pages 96-97)? Please confirm.

23. In the example above, if the unit is subject to mitigation and the unit is committed, can the participant seek to recover the $75/MW? Does the participant need to submit any justification for the $75/MW reference bid requested, even if not seeking to recover the $75/MW bid cost as part of settlement process?

24. In this example, if the unit's minimum load bid is subject to mitigation, but the unit is not committed, does the participant need to submit any justification for the $75/MW reference bid requested?

25. In this example, if the unit is not subject to mitigation and is committed to run, does the participant need to submit any justification for the $75/MW reference bid requested?

26. Finally, in this example, if the unit is not subject to mitigation and is not committed to run, does the participant need to submit any justification for the $75/MW reference bid requested?

27. The Draft Final Proposal (p.59) states:

> DMM stated that CAISO should identify all cost components that can be considered for inclusion in a resource's negotiated commitment costs. CAISO clarified in its revised straw proposal that at a minimum, the negotiation would include the cost components used in its current commitment cost reference levels. Resource-specific negotiated costs will be dependent on that resource and their unique circumstances. …… CAISO believes this provided the needed clarity in response to stakeholder requests.

DMM continues to request that the ISO identify any examples of other cost components (beyond those used in its current commitment cost reference levels) that the ISO feels would be eligible for inclusion in negotiated commitment costs. This an important design detail. Have stakeholders cited any other categories of costs they feel are not included that the ISO feel may be eligible? The cost components included in current commitment cost reference levels are designed to be comprehensive. These include (1) fuel cost, (2) O&M (which can already be customized subject to verification by DMM), (3) major maintenance, (4) GHG and GMC costs, and (5) any opportunity costs associated with start-up and minimum load limits. Any components that maybe missing should be identified at least generally.

Ex post review process

28. Does the ISO calculate the aggregate distribution of prices (mentioned on p. 94 of draft final proposal, and in other places) by resource or by region?

29. DMM is not certain that the ISO's proposed ex post screening process will eliminate the possibility of artificially inflating prices. Paraphrasing from page 95 of the proposal it appears that ISO will allow any price that is at or below the lowest of the 'outlier fence' or the highest offer from next day or custom trading, where the outlier fence is essentially designed to exclude data errors. In DMM's view, this seems likely to allow participants to recover costs based on the highest offer price that is present on electronic exchanges.

    29.1 Can the ISO confirm that this is correct?

    29.2 If so, can the ISO explain how it will prevent a supplier or group of suppliers from inflating that high offer price?

30. Can the ISO provide numerical examples of how the distribution and the outlier fence would be calculated using real data for several days, and show the range of gas prices that would have been allowed in the ISO's proposed ex-post recovery screen for those days?

31. Could the ISO use price quotes from other resources to help verify whether the expectations of a given resource are reasonable? If so, could the ISO consider changing (decreasing) the number of bids that each resource needs to submit? For example, suppose the resource only needs to submit one, but that the individual data point will not be counted unless other resources or SCs submit other data points for the same day.

32. If a resource submits only one bid for gas from off ICE trading, and that bid falls within the overall distribution, is there a reason to exclude it just because the participant did not submit more offers?

33. The proposal states that the definition of affiliate will be identical to those used in the MPM process (footnote 93, page 95). The needs of the MPM process focus on affiliates that participate in the ISO markets. How would the ISO handle affiliates that may participate in a non-ISO jurisdiction gas market, and how would it collect data on those entities and keep that data current?

34. Can the ISO provide examples of the ex post review calculations for both a gas resource and a non-gas resource?

35. On p.94, under section C.4, the proposal states that there will be two categories of drivers that would impact fuel price estimates. The proposal describes the first one in the next paragraph, basically movement of gas prices. What is the second driver? There is no place in the proposal that DMM can find where this is made clear.

36. If a resource receives a payment due to ex post verification of cost expectations, how will that cost be allocated? Will it be incorporated into BCR, or allocated differently?

Gas penalty risks

37. On page 96, the proposal states "While CAISO proposes suppliers will need to submit ex ante these reference level adjustments even for non-compliance risks for HE 17-24, CAISO emphasizes these will likely not be verifiable through its ex ante verification screen." *Can the ISO clarify any scenario under which it believes that any adjustments for non-compliance risk would be verifiable ex-ante?*

38. Also on page 96, the proposed formulation for including the possibility of gas penalties into costs for alter hours of the day is described as follows:

    > If based on notice of fuel transport flow orders, CAISO proposes a reasonable monetary adjustment would be to adjust the delivered gas price estimate from the next day index used in the cost estimate up by adding the non-compliance charge associated with the specific level of flow order associated with hours between TD HE17 and TD HE24.

    Can the ISO clarify this description with a numerical example showing how the expected costs associated with non-compliance risks that might be reasonable to approve ex ante or ex post would be calculated (e.g. given a day-ahead schedule and possible incremental real-time schedule, gas purchase prices, any penalties, etc ?)

39. Suppose a resource submits a reference level adjustment request that includes an amount for potential risk of penalties. Assume that the adjustment is denied and passes to ex-post review. Please describe the potential cost verification and settlement process in the following scenarios:

    39.1 The resource is dispatched up but does not incur any gas penalty

    39.2 The resource is dispatched up but only incurs penalty for part of that dispatch

    39.3 The resource is dispatched up and incurs a penalty for the entire incremental dispatch

Market power mitigation process

40. Can the ISO explain why it did not adopt Lin Xu's idea from the August 3 workshop to change calculation of withholdable capacity (WC) to start from last binding interval instead of from each advisory 15 minute interval?

41. Has the ISO looked at the possibility of whether the supply of counterflow (SCF) from potentially pivotal suppliers should be adjusted in further out intervals in the RT timeline?

42. Why did the ISO exclude DMM's suggested modifications to the supply of counterflow, to include [constraint limit – constraint flow] for transmission constraints into the competitive supply of counterflow, also from the August 3 workshop, from the proposal? This is an important change that could help eliminate mitigation for resources that are committed in merit order.

43. While DMM appreciates the move to a 200% cap as an attempt to decrease potential damage to the market in the early stages of implementation, DMM would like to understand how, when, and why the ISO will examine or propose changes to the cap in the future. Will this be examined on a regular basis, or will something specific need to trigger a re-examination? How will the ISO measure "…benefits to be gained of increasing the cap" (page 74) and how would the ISO determine the amount to increase the cap?

44. On page 74 of the draft final proposal, the ISO states that when a resource rerates their pmin "…reference levels used as a benchmark must use the re-rated minimum operating level for purposes of establishing benchmark against the 200%." This seems to say that the bid cap would increase proportionally with the rerated min load cost. Why does the bid cap need to include 200% of the DEB cost incorporated into the rerated min load cost? The DEB cost was chosen to avoid gaming concerns, and this proposal seems to introduce gaming possibilities.

45. Why does the commitment cost bid cap need to move with reference level adjustments? (p. 74: "CAISO clarifies that if a resource submits an ex ante reference level adjustment and is successfully verified through the automated process, the market-based offer cap at 200% is evaluated against the revised reference level not the estimated or negotiated reference level.") Our understanding is that the reference level adjustments are meant to capture costs in the case that a resource is mitigated, but that 200% of proxy costs should be enough room for reasonable bidding strategies. When costs have been verified at a given level, why do participants need to bid up to 200% of *verified* costs?

46. Page 75 of the draft final proposal states that commitment cost offers will be mitigated if non-competitive congestion component is greater than $0/MWh, but other parts of the proposal suggest that the 'net effect of commitment' is the criteria. Can CAISO clarify the proposal?

47. If the ISO is proposing to use the "net effect of commitment" as some parts of the proposal suggest, will the ISO provide some analysis to show that this will both appropriately capture market power and avoid over mitigating?

48. Example question on NEC: resource 1 is in between two non-competitive constraints: A and B. the shift factor to A is -0.5, shift factor to B is 0.6. Is it correct to think that this resource would not be mitigated when using the NEC? What if A is binding and B is not?

49. On page 77, footnote 82, the proposal states that: "the extent to which intertemporal constraint logic can be included will occur in the implementation phase"; but how the system handles intertemporal constraints makes a large difference in whether or not the proposal effectively counters market power, and in how participants are able to use the new market features. Why does the ISO think that none of these issues are policy level questions?

50. What does it mean that STUC would produce only the mitigation criterion (p. 78 draft final proposal)? Does that mean there is no mitigation in the STUC run? That STUC is not re-run with a mitigated bid set for commitment costs? If so, that may mean that resources with longer start times are effectively not subject to mitigation.

51. Can the ISO provide a mathematical example of how the CME constraints will be counted in commitment cost mitigation? Include calculations for WC, SCF, DCF, and RSI.

52. Why did the ISO decide to move to using a static competitive path analysis to determine which constraints are analyzed for commitment cost market power? This method has numerous well documented issues. [3]

53. Will the ISO publish or suggest or discuss any criteria that it will use to determine when it needs to test more constraints than those identified in the Static CPA? According to discussion on the stakeholder call, the ISO will request the authority to expand the list, but no detail was provided on how or why that authority would be activated.

54. Will operator actions (shut as blocked shutdowns) lead to mitigation of commitment costs?

55. On page 99 of the proposal, under section D.1, the proposal states that the RSI will be calculated for each interval of the optimization window, and that an RSI will be calculated for energy mitigation and for commitment cost mitigation. Is the ISO proposing to calculate the energy mitigation RSI for advisory intervals? If so, what will this be used for?

[3] For example:
http://www.caiso.com/Documents/WPTFCommentsonLocalMarketPowerMitigationEnhancementsStrawProposal.pdf
or section 4.2.3 of : http://www.caiso.com/Documents/2010AnnualReportonMarketIssuesandPerformance.pdf

56. During the call on August 31, the ISO seemed to suggest that it intended to test binding constraints plus constraints identified in a static CPA for commitment costs. However, on p. 102 of the proposal, the ISO states that it proposes to initially test all critical constraints. Can the ISO clarify which of these is the correct interpretation of the proposal?

57. On page 110, the proposal states that mitigation applied in STUC for minimum load costs would only apply for the hour in which market power is identified. Why not apply mitigation to the entire minimum run time for resources that are within their minimum run time when they have market power?

58. Also on page 110, the proposal states that minimum load costs mitigated by the 5 minute market would be carried through the remainder of the hour. Energy bid mitigation in the 5 minute market is only carried through the remainder of the corresponding RTPD interval. Can the ISO provide some justification for this difference?

Other comments

Gas prices

The ISO indicates that the "the current process [for updating gas prices each morning to eliminate the 1-day lag in next day prices used in the day-ahead market] is very manual and extremely exposed to risk of manual failure which may not make it a long-term feasible solution" (p.42). DMM has observed this process and believes it is quite simple and straightforward, is largely automated and does not actually require the ISO to do any calculations (i.e. the process involving grabbing a weighted average price already calculated by ICE. If anything happens with the process, the day-market can use the price for the prior trade day (which would be used if this process was not implemented anyways). The DMM believes that some simple checks could be put in place if the ISO is worried about an extremely incorrect value from somehow being uploaded to the market system.

The draft final proposal explains (p. 42) that updating the index for the day ahead market is difficult and subject to manual failure. If the ISO were to commit to continuing to update gas prices based on available market data, this would involve the ISO assuming this burden. Instead of facing this burden itself and trying to streamline a centralized process for it, the ISO is essentially proposing to shift the burden and risk of manual failure onto all SCs, who will now have to recalculate their costs and submit adjustment requests whenever the ISO would have made the update.

The draft final proposal mispresents DMM proposal for the ISO to have the option of updating gas prices used in the day-ahead and real-time market based on the best available gas market

information available as a "bridge solution that would make incremental progress towards better cost reflection in the near term," that would be replaced when the ISO implemented some "long-term enhancements" on this issue. (p.42) DMM has explicitly indicated that this updating of gas prices used to calculate default bid caps used to verify bids before the market run should be a fundamental feature of any comprehensive long-term package of enhancements.

In fact, this updating of gas prices is a necessary pre-requisite for other changes. DMM has provided extensive analysis showing that updating of gas prices used to cap and/or screen cost-based bids in the day-ahead and real-time markets will greatly reduce the need for participants to request special adjustments on a case by case basis. Without this updating of gas prices, such individual case-by-case requests will be much more frequent and create much more manual work and risk of process failures and problems.

Exceptional dispatches

The Draft Final Proposal states:

> Comments on potential for suppliers likely to receive recurring or predictable exceptional dispatches to exercise market power with commitment cost bids. CAISO understands select stakeholders are concerned that there might be the potential for suppliers to exercise market power with their commitment cost bids if they can predict they would receive an exceptional dispatch instruction. CAISO Operations believes that the practice of issuing exceptional dispatches likely will not result in situations where a supplier could predict receiving an exceptional dispatch. CAISO understands why stakeholders might have concerns but stresses that it has authority to monitor for strategic bidding behavior such as this.

DMM disagrees with the ISO's assessment of this and recommends an appropriate approach be developed for mitigation of exceptional dispatch commitments. Unless determined to be competitive, all exceptional dispatches should be subject to mitigation. Even if ISO Operations might have several generators to choose from when issuing an exceptional dispatch, DMM's experience is that they have very limited ability to compare costs and select the least costly option. And generators do not have to know with certainty that they will be committed through exceptional dispatch in order to raise bid prices and exercise market power when they are exceptionally dispatched.

The ISO does not routinely "monitor for strategic bidding such as this" and instead relies primarily on DMM for such monitoring. DMM's assessment is that seeking to mitigate high BCR payments from exceptional dispatches through monitoring and referrals to FERC for market manipulation is impractical and may place a burden on DMM that prevents DMM from other important monitoring and market design responsibilities. This can be avoided by

subjecting exceptional dispatch commitments to mitigation. The ISO could seek to develop some criteria under which exceptional dispatches might not be subject to mitigation based on a finding of competitiveness, but otherwise such commitments should be subject to mitigation.

As previously noted by DMM, we also believe commitment cost mitigation should be triggered by other forms of operator invention in the market dispatch, such as special scripts that that are run by market operators to effect unit commitment, blocked dispatch instructions, etc.