



Stakeholder Comments Template

Day-Ahead Market Enhancements Phase 1 Initiative

This template has been created for submission of stakeholder comments on the straw proposal that was published on February 7, 2020. The proposal, February 10, 2020 Stakeholder meeting presentation, March 5, 2020 Stakeholder call presentation, and other information related to this initiative may be found on the initiative webpage at: <http://www.caiso.com/StakeholderProcesses/Day-ahead-market-enhancements>

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on March 26, 2019.

Submitted by	Organization	Date Submitted
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Please provide your organization’s overall position on the DAME straw proposal:

- Support
- Support w/ caveats
- Oppose
- Oppose w/ caveats
- No position

Please provide written comments on each of the straw proposal topics listed below:

CPUC staff does not support the CAISO’s current ‘option 2’ approach to restructuring the Day Ahead Market (DAM). CPUC staff believes that the ‘option 2’ approach will not provide benefits to California ratepayers and may decrease reliability. This approach, with its inclusion of the CAISO forecast as a pricing parameter in the day ahead market, does not provide any demonstrable benefit for the state of California and its millions of ratepayers. Instead, the significant changes required to implement this option will likely pose numerous implementation challenges for the CAISO and potentially introduce gaming opportunities that could harm efficient market functions. The proposed changes could also lead to a decrease in capacity available for commitment in the real time market, potentially leading to reliability issues.

If any changes to the DAM are necessary, CPUC staff strongly supports the ‘option 1’ approach that CAISO presented last fall. All of the benefits from the CAISO’s preferred option 2 appear to be achievable with a design that does not include the CAISO forecast as a pricing parameter, using a

slightly different definition of the day ahead ‘imbalance reserve’ product. This was considered earlier in the design process as ‘option 1’ but has not been discussed or more fully developed by the CAISO in the last few papers.

CPUC staff believes that a serious comparison between these two options is needed as the costs and benefits of each approach have not been fully explored, much less compared with one another. For example, while the CAISO’s current ‘option 2’ straw proposal would ensure physical capacity available to meet the day ahead forecast, the imbalance reserve requirement included in option 1 would also lead to commitments of physical capacity and may provide more flexibility in times when the CAISO forecast is inaccurate. A more thorough comparison of the two options should allow stakeholders to evaluate and weigh concerns such as this, which would allow all parties to make more informed decisions about which approach makes the most sense.

Lack of ratepayer benefits and decreased reliability

CAISO explained that they believe that their proposal will be more efficient and yield market benefits by 1) co-optimizing the revised day ahead market energy product with a new reliability capacity product, 2) revising real-time bidding requirements, and 3) establishing the imbalance reserve product.

1) For the co-optimization of day ahead energy and reliability capacity, improvements in efficiency are technically possible but not guaranteed. Efficiencies and benefits depend partly on the accuracy of the CAISO’s forecast in the day ahead time frame. When the CAISO forecast is inaccurate, this may lead to significant decreases in efficiency compared to the current system. CPUC staff do not see the value of undertaking such a significant market change for a potential efficiency gain that may not materialize.

2) CAISO also proposes to change real time bidding requirements, which will significantly impact California resource adequacy (RA) resources. Under the current program, RA resources are required to submit \$0 bids for RUC (residual unit commitment). In addition, RA contracts ensure that resources are available in the day ahead and the real time markets. The CAISO proposal would change this construct by allowing RA resources to place non-zero bids for the reliability capacity and removing obligations to participate in the real-time market under some circumstances. CAISO proposes to only require resources with a day-ahead energy or capacity award to bid into the real time market. Resources would submit bids for the reliability capacity product, and it may frequently have a positive, non-zero price.

The CAISO’s proposal would be beneficial to the extent that the real time portion of those costs can be reduced by procuring less capacity to be available in real time. In order for California ratepayers to benefit from reduced real time procurement, several things need to occur. First, the cost that resources face to be available in the day ahead market has to be separable from the cost to be available in the real time market. Second, the RA contracts that ratepayers currently pay for would need to be renegotiated at a relatively low transaction cost. Third, the CAISO would need to establish sufficient real time capacity targets for the CPUC to comfortably allow those targets to determine the levels of real time reliability.

The CAISO has not yet identified what factors will go into the bids and default energy bids (for reliability capacity). These bid components will need to represent the resource costs necessary to be available to the real time market and these costs will need to be separate from costs to be available to

the day ahead market. CPUC staff is concerned about the feasibility of separating these costs. For example, gas procurement and gas contracting are necessary for availability in general, but it is not clear that those costs are separable between day ahead and real time. If the costs of real time availability are not separable from general or day ahead availability costs, then California ratepayers will suffer a loss from this policy, because it will create a non-zero price at times for a product that California ratepayers have already paid for.

Even if the costs are separable, it would be necessary to identify the costs for real time availability and then negotiate new RA contracts that do not include those costs. Negotiation can be a costly process, so if the costs of renegotiating all of the RA contracts for California is higher than the reduced costs paid for real time availability, then Californians will suffer a loss from these market changes.

Another concern with the proposed changes to real time bidding requirements CPUC staff has identified is that the CAISO would have to set the reliability threshold established in the day ahead market high enough that the CPUC would be able to allow RA contracts to be modified. In the proposals thus far, the CAISO has suggested that they will set the requirements for reliability capacity and imbalance reserves to cover the 95th percentile of observed load imbalances over a recent time period. This seems to suggest that the CAISO would be comfortable allowing shortfalls or overloads on a regular basis. It is unlikely that the CPUC could comfortably modify RA requirements in a setting where shortages would be common. In any proposal that moves forward, CPUC staff suggests CAISO should maintain the existing RA offer obligations, or at a minimum increase their reliability thresholds and re-consider their methodology to establish real time capacity needs.

3) Finally, CPUC staff believes that the granularity differences and the time delay between the day ahead and real time markets need to be addressed when designing the imbalance reserves product. Because of the differences between the two markets, it is difficult to guarantee that the capacity procured in the day ahead market will actually be available and dispatchable in the real time market. Capacity that is not available in real time will not provide any benefits to ratepayers and will not be available to help balance real time needs.

For all of these reasons, CPUC staff believe that this policy is not likely to provide benefits to California ratepayers and that CAISO should prepare a proposal consistent with the 'option 1' design. While the CAISO has stated this initiative will move forward regardless of outcomes in the Extended Day Ahead Market (EDAM) initiative, it seems that this proposal is primarily designed to help accommodate planned Extended Day Ahead Market needs. These interests need to be balanced so CAISO does not inadvertently raise costs for California without any benefit to California in order to achieve their EDAM goals.

1. New day-ahead market products, including reliability energy, reliability capacity, and imbalance reserves.

CPUC staff does not support the proposed design, for the reasons stated above. In particular, staff oppose the reliability energy and reliability capacity products and believe that the imbalance reserve products could be designed differently to address existing challenges in procuring flexible capacity and in resolving differences between day ahead forecasts and real time conditions.

2. Settlement and cost allocations.

The cost allocation needs more development. The CAISO should present details about how large the tier 1 and tier 2 allocations for reliability capacity will be. The reliability capacity costs have to be allocated to load such that it accurately reflects the nodal costs of additional load. In other words, the total costs to load at a given node need to be the same as the total payments to generation at that same node. If power is injected and withdrawn at the same node it should have no impact on the grid or on costs. If the prices for load and generation are not the same at a given node, then such an action will have some kind of cost impact, without changing grid operations at all.

3. Bidding rules and offer obligations.

As stated above, CPUC staff does not support the redesigned bidding rules and offer obligations. CPUC staff believe that the proposed decreased real time obligations will be problematic.

4. Scheduling rules for variable energy resources.

CPUC staff has no comment on this section at this time.

5. Deliverability approach for reliability capacity and imbalance reserves.

CPUC staff has no comment on this section at this time.

6. Approach for congestion revenue rights.

The allocation of reliability capacity costs seems to be designed in a way that creates an imbalance that is then paid out to CRRs. CPUC staff recommends that the CAISO consult more extensively with DMM on this matter. DMM has demonstrated expertise on CRR issues and is likely better equipped than any other organization to analyze this market development.

7. Approach for local market power mitigation.

The CAISO has stated that they are in the early stages of designing a market power mitigation (MPM) framework. CPUC staff would like to raise some issues for consideration in the design of any market power mitigation system for reliability capacity and imbalance reserves.

1. Will each product have its own critical constraint set? Because the MPM procedure will only work on constraints that are in the critical constraint set, it is important that all the relevant constraints are included in that set. Constraints that are binding in the energy market may not be binding in the reliability capacity market, and vice versa.
2. Cross product manipulation: CPUC staff are in the early stages of thinking through the possible cross product manipulation opportunities and how MPM can be used to mitigate those opportunities. Some things that should be considered: Will mitigation in one market require mitigation in other markets? Can a participant use bidding or mitigation in one market to cause a dispatch in another unmitigated market?

8. Regression approach to determine the imbalance reserve requirement.

CPUC staff supports the basic concept of using a regression to determine the imbalance reserve requirement, but staff believes that the CAISO should spend additional time developing a more useful and meaningful model. CPUC staff would be happy to collaborate with the CAISO on this model.

The main issue staff has identified is in the assumption that the load, wind, and solar parameters can be estimated separately and then added together. CPUC staff believes that the separate regressions do not have separate errors. In fact, the errors are correlated and therefore the results (i.e. the addition of the parameters) will not be statistically meaningful. For example, load forecast error and solar forecast error will be highly correlated. Estimating the impact of these parameters separately and adding them assumes that the error terms are independent, when in fact they are both determined in large part by the same weather factors.

Additionally, by only using one factor to estimate each parameter, the CAISO seems to be leaving a lot of information out of the estimation. CPUC staff believes that other factors, such as weather, alternate fuel prices, and possibly other economic factors, could be useful in making the estimation more accurate.

9. Additional comments:

CAISO's market design team has not addressed concerns on basic economic principles. During the March 12th stakeholder call, the CAISO asserted that the proposed design would be economically efficient because it was the solution to the model they had programmed, and that as long as the model can be solved, the solution is economically efficient. This is incorrect. For example, it is easy to write a program that solves a monopoly or oligopoly model for the profit maximizing outcome, but no one would argue that this would be an economically efficient solution. Market designs that are economically efficient maximize opportunities for stakeholders to transact willingly in the market. The current straw proposal limits those opportunities. With that in mind, CPUC staff would like to request that the CAISO and stakeholders fully consider the efficiency implications of the proposed design and elaborate on the economic efficiency gains from this perspective.