



Template for Submission of Comments on 5-Year Market Initiatives Roadmap

The CAISO is requesting that Stakeholders submit the following comments to the 5-Year Market Initiatives Roadmap using this stakeholder comments template.

1. Pick three market enhancements you believe should have the highest priority for implementation and describe the reasons why tied back to the high-level prioritization criteria using the provided tables below. These top three may include FERC mandated market enhancements or non-mandated market enhancements that are described in the Roadmap.
2. Prioritize the list of FERC mandated enhancements listed in the table below with a rank of 1-8 based on the order of priority you believe these enhancements should be addressed by the CAISO.

Comments are requested by close of business Friday, April 18, 2008 and should be submitted to mmiller@caiso.com. Please contact Margaret Miller at mmiller@caiso.com or 916 608-7028 with any questions.

Instructions for Part 1 – Ranking top three market enhancements

- 1) At the top of the template please provide your name and the name of the company you represent.
- 2) In the left-hand column identify the section number associated with the enhancement you want to propose, as identified in the Five Year Market Initiatives Roadmap. If you are proposing a new market enhancement that is not captured in the Roadmap please indicate "New" in the left-hand column.
- 3) In the second column provide the name of the enhancement and a description of the important features you are proposing.
- 4) In columns three through six provide justification for your proposed enhancement based on:
 - Grid Reliability-please rank high, medium or low and describe why.
 - Market Efficiency – please rank high, medium or low and describe why.
 - Implementation/cost impact to CAISO please estimate (High, Medium, or Low)
 - Implementation/cost impact to market participants please estimate (High, Medium, or Low)

In providing your justification for a proposed market enhancement it is extremely important to describe why you believe a market enhancement ranks high, medium or low in the specified category. The CAISO will use this information when evaluating these market enhancements in the ranking process.

Company represented: **California Department of Water Resources**

Person submitting comments: **Charles Mee**

Date of submission: **April 18, 2008**

Part 1 – Top Three Market Enhancements (Mandated or Non-Mandated)

| Roadmap section number, or specify "New" | Title and description of proposed enhancement | Does this market enhancement have a High, Medium or Low impact on improving Grid Reliability and why? | Does this market enhancement have a High, Medium or Low effect on improving market efficiency and why? | Estimated Implementation /Cost Impact to CAISO Please specify (High, Medium or Low) | Estimated Implementation/Cost Impact to Market Participants Please specify (High, Medium or Low) |
|--|---|--|---|--|---|
| 2.2.3.21 | Increase in Number of LAP Zones | High: More LAP zones will send more accurate reliability signals to generators and loads, which will be able to respond more effectively to the reliability contingencies and help CAISO in maintaining the system reliability. | High: More LAP zones will send more transparent price signals to generators and loads, which will be able to better respond to the price signals. As a result, market efficiency will be improved. | Low: This enhancement is mainly a settlement enhancement. Since the Full Network Model has the capability of calculating nodal LMPs already, increasing in number of LAP Zones would not increase additional implementation cost. It should be easier for the software to handle a small LAP zone than a larger LAP zone, so the cost impact to CAISO would be minimal. | Low: To interface with CAISO, market participants have similar software to handle LMP calculation. Similar to the Implementation / Cost impact to CAISO, market participants would experience minimal cost impact. |

| Roadmap section number, or specify "New" | Title and description of proposed enhancement | Does this market enhancement have a High, Medium or Low impact on improving Grid Reliability and why? | Does this market enhancement have a High, Medium or Low effect on improving market efficiency and why? | Estimated Implementation /Cost Impact to CAISO Please specify (High, Medium or Low) | Estimated Implementation/Cost Impact to Market Participants Please specify (High, Medium or Low) |
|--|---|--|---|---|---|
| 2.2.3.23 | Two-Tier rather than single-tier RTM BCR Cost Allocation | High: System reliability is heavily related to the real time power flow and energy balancing. In order to maintain system reliability in the RTM, real time transactions should receive accurate price signals. Current design of allocating RTM BCR cost to market participants' Metered Demand does not encourages market participants to fully schedule load in the DAM, which is an existing problem. Allocating RTM BCR to Metered Demand disconnect the CAISO RTM unit commitment from deviations at the RTM, which is the driver of the commitment. As a | High: Allocating RTM BCR to all Metered Demand will impose unnecessary burdens to DAM schedules. This not only impact DAM transaction certainties, it will also hide price signals to RTM load activities. This will result in cost shifting, subsidizing, and will impact market efficiency significantly. A Two-Tier RTM BCR would solve, most if not all, the above problems. | Low: This enhancement is mainly a settlement enhancement. Also, CAISO already has two-tier cost allocation mechanism for IFM BCR and RUC BCR; it should not be difficult for CAISO to design a Two-Tier RTM BCR. So, implementation / cost impact to CAISO should be very low. | Low: This enhancement is a settlement enhancement only. Also, to interface with CAISO, market participants already have two-tier cost allocation mechanism for IFM BCR and RUC BCR; it should not be difficult for them to interface with CAISO with regard to a Two-Tier RTM BCR. So, implementation / cost impact to market participants should be very low. |

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| | | result, it will be difficult for CAISO to maintain the system reliability at RTM. The problem must be solved. A Two-Tier RTM BCR would be solve, most if not all, the above problems. | | | |
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| Roadmap section number, or specify "New" | Title and description of proposed enhancement | Does this market enhancement have a High, Medium or Low impact on improving Grid Reliability and why? | Does this market enhancement have a High, Medium or Low effect on improving market efficiency and why? | Estimated Implementation /Cost Impact to CAISO Please specify (High, Medium or Low) | Estimated Implementation/Cost Impact to Market Participants Please specify (High, Medium or Low) |
|--|---|--|---|---|---|
| 2.2.3.24 | Consideration of UFE as part of Metered Demand for Cost Allocation | High: Unaccounted for Energy (UFE) is a problem for system reliability. CAISO state estimator, CAISO operating staff, and Scheduling Coordinators cannot see the activities of UFE. This kind of system uncertainty is always a risk to the grid reliability. When the UFE is significant enough, it could lead to system contingencies or emergencies. | High: UFE is part of a Load Serving Entity's load. When not charged at least the same as metered demand, the UFE becomes a free rider. In fact, current design encourages UFE occurrence. Counting UFE as part of Load Serving Entities' Metered Demand and allocate related cost to UFE would make producers of UFE accountable, avoid cost shifting, and | Low: Since this enhancement only needs to modify the settlement part of the software, it should not be difficult for CAISO to implement it. Implementation / Cost impact to CAISO should be minimal. | Low: Similar to the cost impact to CAISO, the cost impact to market participants will be very low. |

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| | | | highly improve market efficiency. | | |
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Instructions for Part 2 – Ranking FERC Mandated Market Enhancements

1. In the left hand column enter a rank for the specified FERC mandated market enhancement in order of priority for implementation by indicating a 1 for highest priority to an 8 for lowest priority. If you believe that more than one market enhancement should have the same level of priority you may use the same ranking number up to two times. For example you may rank up to two market enhancements as a “1”.
2. In column two please describe the reason for your selected rank unless the same market enhancement was already described in detail in Step 1 above.

The CAISO has been ordered by FERC to implement or address the following market enhancements no later than three years after MRTU start-up¹.

| Rank (1-8) | FERC Mandated Market Enhancement | Please describe reason for rank |
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| 7 | Multi Hour Block Constraint in RUC – 2.2.2.2 | CAISO should consider accommodating Multi Hour Block constraint in RUC. However, this issue can be considered in conjunction with the Simultaneous RUC and IFM (2.2.2.1). |
| 3 | Multi Settlement System for Ancillary Services -2.2.2.6 | Confusing the A/S with Energy settlement will lead CAISO into procurement problems and market participants into dilemma on scheduling A/S and energy. This enhancement should be addressed promptly. |
| 8 | Rebate of loss-over collection issues for Renewable Resources – 2.2.2.3 | This should not be a significant issue for renewable resources. In most cases, marginal loss component of the Locational Marginal Price will be minimal for a generator node. Renewable Resources, same as other generators, will not incur very much marginal losses at the first place. Currently, only load are refunded the loss- |

¹ The CAISO is ordered by FERC to implement Multi Settlement System for Ancillary Services in a “future MRTU Release”. No specific timeline was specified.

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| | | over collection. Letting Renewable Resources get involved into loss-over collection refund might introduce problems to the current refund design. |
| 6 | Bid Cost Recovery for Units with Run Times that Exceed 24 Hours - 2.2.2.9 | CAISO should try to allocate BCR to run times that exceed 24 hours. |
| 5 | Support Exports of Ancillary Services – 2.2.2.13 | Reserve transmission capacity for A/S export should be considered. This will help CAISO to solve other seam's issues. |
| 4 | Model Constraints of Combined Cycle Units – 2.2.2.16 | Modeling generators accurately should be considered whenever resources are available. |
| 1 | Increase number of LAP Zones – 2.2.2.20 | More LAP zones will send more accurate reliability signals to generators and loads, and they will be able to respond to the reliability contingencies or emergencies. More accurate reliability signals will allow generators and loads to help CAISO in effectively maintaining the system reliability. More LAP zones will send more transparent price signals to generators and loads, which will be able to better respond to the price signals. As a result, market efficiency will be improved. |
| 2 | Two Tier rather than single tier Real-Time Bid Cost Recovery – 2.2.2.23 | System reliability is heavily related to the real time power flow and energy balancing. In order to maintain system reliability in real time, real time transactions should receive accurate price signals. Current design of allocating RTM BCR to market participants' Metered Demand does not encourage market participants to fully schedule load in the DAM, which is an existing problem. Allocating RTM BCR to Metered Demand but not to deviations disconnects the CAISO RTM unit commitment from the cost driver of the RTM commitment, which is the RTM deviation. |

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| | | Single tier RTM BCR cost allocation will result in difficulty for CAISO to maintain real time system reliability. The problem must be solved, and a Two-Tier RTM BCR would be solve, most if not all, the above problem. |
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