

CAISO WHITE PAPER

Revised Ranking Criteria for Market Design Initiatives

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Policy Issue Ranking Criteria

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1. Introduction & Executive Summary

In response to a request by the CAISO Board of Governors and a significant number of identified potential market design enhancements post MRTU Release 1 in the CAISO's Market Initiatives Roadmap, the CAISO has proposed to implement a formalized ranking process for potential market design modifications. The implementation of a ranking process will enable to CAISO in conjunction with its stakeholders to prioritize projects so that CAISO and market participant resources can be used as effectively and efficiently as possible to implement those projects determined to be the most beneficial to the CAISO's customers and the market as a whole. The methodology should also facilitate a more targeted discussion of stakeholders' opinions on the prioritization of issues based on the ranking criteria. Ultimately, this process is being designed to provide the CAISO Governing Board with a more detailed description of the potential costs, benefits, and risks of specific projects in the specific areas targeted through the ranking criteria process.

On July 17th, the CAISO held a stakeholder meeting to discuss its initial ranking criteria proposal. The CAISO received valuable input on modifications to that initial proposal to both simplify and improve the methodology. Following the stakeholder meeting, the CAISO received written comments from several stakeholders. The proposal set forth below incorporates those comments into a revised proposal that will be presented at an August 17th stakeholder meeting. A summary of stakeholders' written comments can be in Attachment D of this document.

2. Proposal

The CAISO's revised proposal modifies the original proposal by creating a greater balance between the CAISO and market participants in connection with the benefits of potential market design changes. The revised proposal also eliminates overlapping categories identified by stakeholders in the original proposal. The resulting ranking criteria methodology is a more balanced, simplified approach to ranking proposed market initiatives. The new proposal also eliminates a number of criteria included in the original proposal. First, the "Mandate" criterion was eliminated as it was clear from the stakeholder meeting and written comments that this added unnecessary confusion to the process. Clearly, the CAISO must address any market initiative that is mandated by FERC. This methodology is targeted to apply only to projects that are initiated by stakeholders or the CAISO. In addition, some of the original criteria were eliminated because by meeting other identified criteria, these criteria would be satisfied. "Reputation" and "Expanding ISO Participation" both fall into this category. Finally, overlapping criteria were eliminated. "Corrects Design Flaws" was removed as it is included in "Improving Market Efficiency."

The feasibility criteria were modified to address stakeholder comments related to creating a closer balance between CAISO and market participation costs and impacts. The new proposal has separate criteria for implementation costs and resource impacts for both the CAISO and market participants. It also eliminates the "Complexity" criterion as this was determined to be included in the implementation impact on systems and/or resources.

The new proposal has been simplified to five benefit criteria and six feasibility criteria from the original proposal, which contained eleven benefit criteria and five feasibility criteria. The criteria contained in the original proposal are listed below.

Original Proposal List of Benefit Criteria:

1. Grid Reliability
2. Improving Market Efficiency
3. Correct Market Design Flaws
4. Promote Infrastructure Development
5. Enhance the Goal of Stable Market Rules
6. Reputation
7. Annual GMC Cost Reduction
8. Addresses Corporate Risk Inventory
9. Mandate
10. Expanding CAISO Participation
11. Process Improvement (CAISO and Stakeholders)

Original List of Feasibility Criteria:

1. Implementation Impact to Stakeholders
2. Complexity (CAISO)
3. Implementation Cost
4. Amount of Project Resources Required
5. Ongoing Operating Costs

The revised proposal has been reduced to the five benefit and six feasibility criteria listed below.

Revised List of Benefit Criteria:

1. Grid Reliability
2. Improve CAISO Market Efficiency
3. Promote Efficient Infrastructure Development
4. Desired by Stakeholders
5. Process Improvement (CAISO and Market Participants)

Revised List of Feasibility Criteria:

1. Market Participant Implementation Cost
2. Impact of Market Participant Implementation on Market Participant Systems and Resources
3. Impact on Market Participant Ongoing Operating Costs
4. CAISO Implementation Cost
5. Impact of CAISO Implementation on CAISO Systems and Resources
6. Impact on CAISO Ongoing Costs

Attachment A at the end of this paper contains a matrix showing how the original proposal has been modified to result in the new proposal. A clean version of the new proposal is included in Attachment B.

Benefit Criteria Description

The benefit criteria are designed to capture proposed market initiatives impact on the CAISO's core objectives. Each of the five benefit criteria is described below.

1. **Grid Reliability.** Grid reliability is a core function of the CAISO and has been assigned a weight of 10. Under this benefit criterion, market initiatives will be judged by how they might positively impact grid reliability. Examples of this include reducing a reliability risk or providing additional system security. This could be done in a variety of ways such as gaining better information on which to operate the system, ensuring sufficient infrastructure to meet peak loads, or advanced means for dispatching resources to name a few.
2. **Improving CAISO Market Effectiveness.** Running effective markets is another core objective of the CAISO and has been assigned a weight of 10. This benefit criterion is focuses on short-term energy and reserve market efficiency. Under this criterion, market initiatives will be judged by a number of factors relating to increasing market efficiency such as:
 - Does the market initiative promote competition or facilitate expanded market/CAISO participation?
 - Does the proposed market initiative enhance the use of market instead of administrative mechanisms or CAISO discretion?
 - Does the proposed market initiative enhance CAISO transparency and provide better information (including price signals) to market participants?
 - Does the proposed market initiative increase assurances of nondiscriminatory treatment among market participants?
 - Does the new functionality promote long-term regulatory certainty?
 - Does the new functionality remedy any design flaws that were detrimental to market efficiency?
 - Will the new functionality improve the perception of the viability and stability of the California markets, market participants, and the CAISO?

3. **Promote Efficient Infrastructure Development.** Under this criterion, an assessment will be made whether the proposed market design initiative is expected to promote efficient infrastructure development. This criterion is assigned a weight of 10 as efficient infrastructure development is critical for the reliable operation of the grid as well as efficient market outcomes. This criterion is assessed by factors such as:
 - Does the market initiative facilitate transparent, efficient investment price signals?
 - Would the market initiative reduce investment risk for transmission and/or generation infrastructure?
4. **Desired by Stakeholders.** This criterion captures the stakeholder support behind proposed market initiatives and is assigned a weight of 10. Market initiatives with a wide range of stakeholder support will be assessed a high score. Stakeholder support includes market participants as well as Regulatory Agencies.
5. **Process Improvement.** This criterion was included to identify the benefits from process improvements resulting in operating efficiencies and/or cost savings for market participants and/or the CAISO. It has been assigned a weight of 5. This criterion has a lower weight in relation to the other benefit criteria as it was deemed to be less critical than the other benefit criteria in determining the overall benefits of a proposed market initiative. The lower weighting was also assigned because the related cost reductions are captured within the feasibility criteria.

Feasibility Criteria Description

The feasibility criteria are designed to establish the impact of implementing proposed design changes on Market Participants and the CAISO. These six criteria are described below.

1. **Market Participant Implementation Cost and 2. CAISO Implementation Cost.** This criterion provides an opportunity to weigh in on the cost of potential market design features on the market participants and the CAISO.
3. **Market Participant Implementation Impact on Market Participant Systems and Resources and 4. CAISO Implementation Impact on CAISO Systems and Resources.** In addition to cost, changes to market design potentially have an effect on systems and resources. This criterion captures that influence on determining the importance of a proposed feature.
5. **Impact on Market Participant Ongoing Operating Costs and 6. Impact on CAISO Ongoing Operating Costs.** A potential market design change may impact the ongoing cost of doing business. The purpose of this criterion is to gauge this impact.

2.1 CAISO Application of the Prioritization Criteria

2.1.1 High Level Prioritization

The CAISO proposes to first conduct a high level assessment of proposed market initiatives by applying a simplified ranking process of three benefit and two feasibility criteria. We have included Grid Reliability, Improving Market Efficiency, and Desired by Stakeholders as the three benefit criteria. For the feasibility criteria, we combined the cost and resource impact feasibility

criteria from the revised proposal into two feasibility criteria: Market Participant Implementation Impact and CAISO Implementation Impact. After applying the high level criteria, the CAISO will designate proposed market initiatives as high, medium, and low priority initiatives. High priority initiatives will then be evaluated by applying the prioritization criteria described above and illustrated in Attachment B to determine a prioritization of these initiatives. Those proposed market initiatives with the highest prioritization would be targeted for the earliest implementation. Once the prioritization is complete, the CAISO will conduct an assessment of CAISO and market participant resource availability and devise an implementation plan. The implementation plan will include a timeline for future market design releases based on packages of the desired market design enhancements. Once conceptual market designs are developed, the CAISO, using more specific information based on specific design characteristics, will again apply the ranking criteria and present this information to the Board of Governors when they are asked to approve the implementation of market design enhancements.

ATTACHMENT B: REVISED CAISO PRIORITIZATION CRITERIA							
#	Criteria	Strategic Objective	Weight	HIGH	MEDIUM	LOW	NONE
				10	7	3	0
1	Grid Reliability	Reliability	10	Significant Improvement	Moderate Improvement	Minimal Improvement	No Improvement
2	Improving CAISO Market Efficiency	Market Efficiency	10	Significant improvement	Moderate improvement	Minimal improvement	No impact
3	Promote Efficient Infrastructure Development	Infrastructure Development	10	Significant improvement	Moderate improvement	Minimal improvement	No improvement
5	Desired by Stakeholders	Customer Care/Regulatory	10	Universally desired by stakeholders	Desired by majority of stakeholders	Desired by a small subset of stakeholders	No apparent desire
6	Process Improvement (ISO & MP)	Customer Care, Financial & Enterprise Risk Management	5	Significant improvement	Moderate improvement	Minimal improvement	No impact
7	Market Participant Implementation Cost		7	No Cost	Minimal Cost	Moderate Cost	Significant Cost
8	Market Participant Implementation impact on systems and resources		7	No Impact	Minimal Impact	Moderate Impact	Significant Impact
9	Impact on Market Participant ongoing operating costs		7	No ongoing operating costs	Minimal ongoing operating costs	Moderate ongoing operating costs	Major ongoing operating costs
10	ISO Implementation Cost		10	< \$1M	>\$1M, <\$5M	>\$5M, <\$10M	>\$10M
11	ISO Implementation impact on systems and resources		7	No Impact	Minimal Impact	Moderate Impact	Significant Impact
12	Impact on ISO Ongoing Operating Costs		7	No ongoing operating costs	Minimal ongoing operating costs	Moderate ongoing operating costs	Major ongoing operating costs

ATTACHMENT C: CAISO HIGH LEVEL PRIORITIZATION CRITERIA

#	Criteria	Strategic Objective	HIGH	MEDIUM	LOW	NONE	
			10	7	3	0	
1	Benefit	Grid Reliability	Reliability	Significant Improvement	Moderate Improvement	Minimal Improvement	No Improvement
2		Improving Overall Market Efficiency	Market Efficiency	Significant improvement	Moderate improvement	Minimal improvement	No impact
3		Desired by Stakeholders	Customer Care/Regulatory	Universally desired by stakeholders	Desired by majority of stakeholders	Desired by a small subset of stakeholders	No apparent desire
4	Feasibility	Market Participant Implementation Impact (\$ and resources)		Significant Impact	Moderate Impact	Minimal Impact	No impact
5		ISO Implementation Impact (\$ and resources)		Significant Impact	Moderate Impact	Minimal Impact	No impact

Attachment D

Summary of Stakeholder Comments Regarding Ranking Criteria

Stakeholder	Comment
RTO Advisors	<ul style="list-style-type: none"> • Proposed process is cumbersome and time-consuming; • Recommended Approach: <ul style="list-style-type: none"> ○ Stakeholders should rank initiatives – High, Med, Low ○ CAISO aggregates results by participant sector and discuss at a future Stakeholder Meeting; • Comments on proposed CAISO Process <ul style="list-style-type: none"> ○ “Mandate” and “Corrects Design Flaws” are considered must-implement items and should not be considered in the ranking criterion; ○ “Reputation” looks bad; ○ “Addresses Corporate Risk Inventory” has little meaning for stakeholders; ○ “Implementation Costs” and “Ongoing Operating Costs” are key criteria; perhaps there should be more detailed refinement or weightings; ○ “MP Implementation Impact” – not sure whether market participants will be able to assess this before a project is selected.
Barbara Barkovich	<ul style="list-style-type: none"> • Ranking Criteria “in general show little interest in the Market Participant perspective”; • Criteria “do not make clear that if a market design change is mandated by FERC, the ISO must implement it”; • “ISO reputation does not appear from the outside to be a criterion on par with grid reliability or FERC mandates”; • “Among the Feasibility Criteria, complexity for the ISO does not appear to be on a par with some of the other criteria”; • Market Participants should be able to provide input along with ISO subject matter experts on the implications of projects.
WPTF	<ul style="list-style-type: none"> • “It seems unreasonable to have a process that expects to apply quantification and produce quantitative outcomes, such as the one the ISO has proposed”; • Simplify the process; • The goal should be to assess the energy industry and end user costs and benefits, not just the costs and benefits to the ISO; • Fulfilling a mandate warrants a higher priority and should not

	<p>be subject to this exercise;</p> <ul style="list-style-type: none"> • Market Efficiency – Does the new functionality: <ul style="list-style-type: none"> ○ Promote competition or facilitate expanded market/ISO participation? ○ Is the service provided by the new functionality valued through markets? ○ Enhance CAISO transparency? ○ Reduce discriminatory treatment? ○ Promote long-term regulatory certainty? ○ Remedy design flaws? ○ Improve the perception of the viability and stability of the CA markets, market participants and the ISO? • “Will the change resolve a significant reliability risk or will it provide a significant additional level of security in areas viewed as necessary?” • Will the new functionality enhance CAISO transparency? • Cost Impact <ul style="list-style-type: none"> ○ What will be the net effect on GMC? ○ What are the Market Participant one-time and ongoing cost impacts? • Will the new functionality result in significant efficiencies for Market Participants? • Does the change provide enhanced risk management opportunities for the ISO and/or Market Participants? • High Level Ranking – “Any projects that seem to offer substantial benefits relative to costs – often indicated by various market participants’ pleas for consideration by the ISO – should be a candidate for more investigation”.
<p>Southern California Edison</p>	<ul style="list-style-type: none"> • “CAISO should request stakeholders to rank the final list of market initiatives into three categories: High Priority, Medium Priority and Low Priority. Each category would be required to contain one third of the total number of market issues, to the extent the total number of issues is evenly divisible by three”; • After this ranking is complete the CAISO would aggregate the results and review with stakeholders. Edison advocates a point system with High Priority assigned 5 points, Medium Priority 3 points and Low Priority 1 point. The results would be published and a cost/benefit analysis would be applied to the top issues. “The CAISO should also provide its opinion as to the feasibility and cost of the top issues”.

<p>California Municipal Utilities Association (CMUA)</p>	<ul style="list-style-type: none"> • “CMUA members support the CAISO’s efforts to prioritize tasks”; • CAISO’s proposal is overly complex; • “The Ranking Criteria in general show little interest in the Market Participant (“MP”) perspective”; • “Legal Mandates Must Be Highly Weighted, Outside Policy Preferences Should Not”; • “ISO Reputation” and “Expanding ISO Participation” are unnecessary categories; • “Complexity” should be given more weight; • “Market Efficiency is a Tough Criteria on Which to Base Decisions.”
<p>Pacific Gas and Electric Company (PG&E)</p>	<ul style="list-style-type: none"> • “PG&E agrees that the proposed criteria provide a reasonable initial basis for prioritization of post-Release One market initiatives”; • It’s not clear why “Process Improvement” and “Addresses Corporate Risk Inventory” are appropriate criteria for prioritization; • Suggest that “the CAISO supplement the criteria to increase the priority of market initiatives when those initiatives are supported by a complete or nearly complete consensus among market participants”; • “Improve Market Efficiency:” should be assigned a weighting of 10. • “Infrastructure Development” should have a lower weighting, in line with “Reliability” and “Market Efficiency”; • “Reputation” should be assigned a weighting of 5; • The process may be overly complex; • “Cost/benefit analyses should be used and justified to the maximum extent possible”; • “The CAISO should post the draft results of its application of the criteria and review those results with stakeholders and allow for feedback on the results. The CAISO should also include a mechanism for updating the initial prioritization of post-Release One market design issues.”
<p>Williams Power Company</p>	<ul style="list-style-type: none"> • The goal of implementing a “consistent, rational process to prioritize various modifications to the markets is laudable”;

	<ul style="list-style-type: none"> • The CAISO proposal is “unworkably complex”; • The CAISO should adopt a system using five ranking criteria, each criterion with a scale of one to five. The criteria should be: <ul style="list-style-type: none"> ○ Improved Market Efficiency; ○ Improved Market Price Signals; ○ Mitigating risk (for CAISO and market participants); ○ Improved transparency; ○ Improved reliability; • Skeptical of quantifying the benefits of market modification in monetary terms; • The most valuable information is the rationale for the ranking value, not the value itself; • The first cut or “high level” ranking process is inefficient since market participants will not have enough information to make this determination. <ul style="list-style-type: none"> ○ The CAISO should identify a small number of desired projects (up to five) ○ Allow market participants to change their rankings as they learn more about the projects.
<p>Northern California Power Agency (NCPA)</p>	<ul style="list-style-type: none"> • A standard set of benefit and feasibility criteria will “help improve transparency within the CAISO decision making process”; • Criteria appear to be more qualitative rather than quantitative • “Improving Market Efficiency” and “Reputation” are difficult to evaluation using a cost/benefit analysis; • Criteria appear to be CAISO focused rather than market participant focused; • Multiple criteria focus on CAISO strategic goals rather than benefits that could be realized by the market, e.g. “Reputation”, “Expanding ISO Participation”. • “Corrects Design Flaws” is subjective; it may be in the eye of the beholder; • “Grid Reliability”, “Promote Infrastructure Development”, “Market Implementation Cost” and “Mandate” seem to be more relevant to market participants; • “The criteria fail to recognize the impact on individual market participants”; • “The criteria may discount the importance of certain issues that are imperative to smaller market participants”;

	<ul style="list-style-type: none">• “Criteria that directly reflect the costs and benefits that may be incurred by market participants should be given the highest weight”;• Mandated FERC orders should be treated separately from other issues;• A clearly defined process would be beneficial by providing transparency to the market, but the process should be fully developed to remove the ambiguity associated with qualitative measures;• The CAISO should be market participants the ability to provide feedback.