



Preliminary Results of High Level Prioritization of Market Enhancements July, 2009

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Market and Infrastructure Development

Catalogue of Market Design Initiatives

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Catalogue of Market Initiatives

July, 2009

1. Introduction

Each year the ISO and stakeholders set aside time to review all the market design issues that have been compiled in the Market Design Initiatives Catalogue ensure that it is complete. A subset of these market design initiatives are designated as “discretionary” meaning that they are not required on a specific timeline. These initiatives are ranked to assess their relative priority based on two sets of ranking criteria. The first ranking, commonly referred to as the “high level ranking” is performed using general criteria to determine if an initiative falls into a high, medium or low priority status. The second ranking process, the “detailed ranking” is completed to further prioritize the initiatives with the highest priority using a detailed set of criteria. Stakeholder comment at each stage of the process is critical to assist in refining these results. This purpose of this paper is to provide the results of the high level ranking performed by staff in 2009. Stakeholders will utilize this document to comment on the results of the high level ranking process.

2. High Level Ranking Process

The CAISO conducted its high level assessment of proposed market initiatives published in the 2009 Market Design Initiatives Catalogue¹ by applying a simplified ranking process of three benefit and two feasibility criteria based on stakeholder input. In this iteration of the ranking process, each initiative will be graded “High”, “Medium” or “Low” based on the results of their criteria ranking. The high level benefit criteria are “Grid Reliability”, “Improving Market Efficiency”, and “Desired by Stakeholders” as shown in Figure A below. The high level feasibility criteria utilize two measures: “Market Participant Implementation Impact” and “CAISO Implementation Impact”.

¹ All documents related to the market design initiatives process can be found at <http://caiso.com/1fb1/1fb1856366d60.html>.

Figure A - CAISO HIGH LEVEL PRIORITIZATION CRITERIA						
#		Criteria	HIGH	MEDIUM	LOW	NONE
			10	7	3	0
1	Benefit	Grid Reliability	Significant Improvement	Moderate Improvement	Minimal Improvement	No Improvement
2		Improving Overall Market Efficiency	Significant improvement	Moderate improvement	Minimal improvement	No impact
3		Desired by Stakeholders	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)	No Impact	Minimal Impact	Moderate Impact	Significant impact
5		ISO Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact

3. 2009 High Level Ranking Results

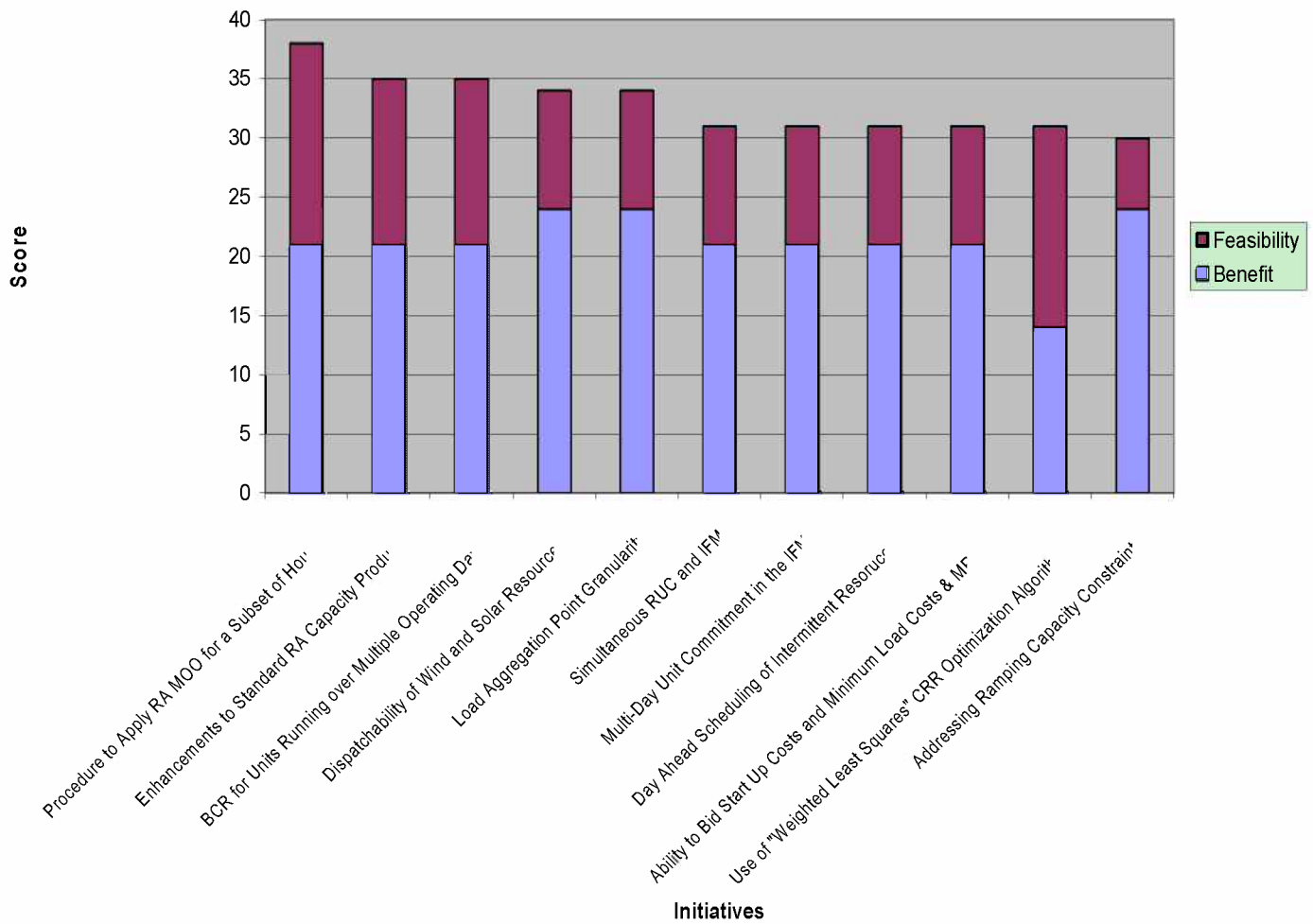
The results of the high level ranking are displayed on the next page². ISO staff evaluated each initiative based on the criteria described in the previous section and guided by the key corporate goals established for 2009. Renewable integration has become a significant factor in future market design initiative planning. During the ranking process this overarching criteria was incorporated into ranking decisions as it will have significant impacts on market efficiency and grid reliability.

The pages following the spreadsheet are charts illustrating how the benefit and feasibility criteria were balanced within each initiative.

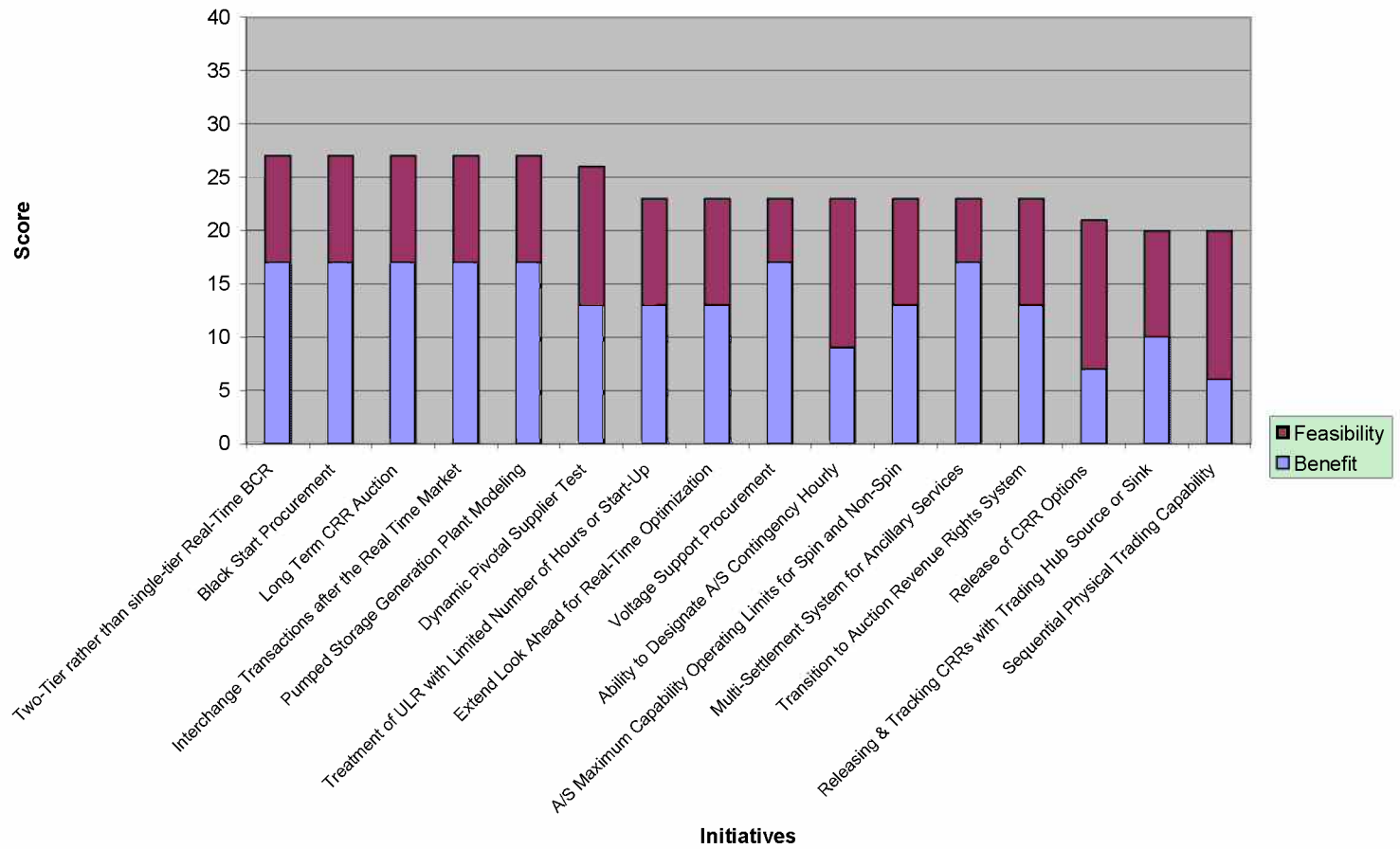
² The items in red font on the chart are FERC mandated enhancements.

(A) High Level Prioritization of Market Enhancements	(B) Catalogue Section	(C) Grid Reliability	(D) Improving Overall Market Efficiency	(E) Desired By Stakeholders	(F) Total Benefit (C + D + E)	(G) Market Participation Implementation (\$ and resources)	(H) ISO Implementation (\$ and resources)	(I) Total Feasibility (G + H)	(J) Total (F + I)	(K) 2009 Rank	(L) 2008 Rank
Procedure to Apply RA MOO for a Subset of Hours	8.3	7	7	7	21	10	7	17	38	High	
Enhancements to Standard RA Capacity Product	8.1	7	7	7	21	7	7	14	35	High	
Bid Cost Recovery for Units Running over Multiple Operating Days	2.8	7	7	7	21	7	7	14	35	High	Medium
Rules to Encourage Dispatchability of Wind and Solar Resources	4.1	10	7	7	24	7	3	10	34	High	
Load Aggregation Point Granularity	2.11	7	10	7	24	3	7	10	34	High	Low
Simultaneous RUC and IFM	5.2	7	7	7	21	7	3	10	31	High	Medium
Multi-Day Unit Commitment in the IFM	2.4	7	7	7	21	7	3	10	31	High	Medium
Day Ahead Scheduling of Intermittent Resources	2.5	7	7	7	21	3	7	10	31	High	Low
Ability to Bid Start Up Costs and Minimum Load Costs & MPM	2.13	7	7	7	21	7	3	10	31	High	Medium
Use of "Weighted Least Squares" CRR Optimization Algorithm	7.7	0	7	7	14	10	7	17	31	High	Medium
Addressing Ramping Capacity Constraints	6.8	10	7	7	24	3	3	6	30	High	
Potential Modifications to Market Rules for Day-Ahead Intertie Schedules	2.15	7	3	3	13	10	7	17	30	High	
Two-Tier rather than single-tier Real-Time Bid Cost Recovery	2.2	3	7	7	17	7	3	10	27	Medium	Medium
Black Start Procurement	6.10	7	7	3	17	3	7	10	27	Medium	Medium
Long Term CRR Auction - includes - Flexible Term Lengths of Long Term CRRs - Multi-period Optimization Algorithm for Long Term CRRs	7.3	0	10	7	17	7	3	10	27	Medium	High
Interchange Transactions after the Real Time Market	9.1	7	7	3	17	7	3	10	27	Medium	Medium
Pumped Storage Generation Plant Modeling	10.3	7	7	3	17	7	3	10	27	Medium	
Dynamic Pivotal Supplier Test	2.7	3	7	3	13	10	3	13	26	Medium	Medium
Treatment of Use-Limited Resources with Limited Number of Hours or Start-Up	2.1	3	7	3	13	7	3	10	23	Medium	Low
Extend Look Ahead for Real-Time Optimization	4.5	3	7	3	13	7	3	10	23	Medium	Low
Voltage Support Procurement	6.9	7	7	3	17	3	3	6	23	Medium	Low
Ability to Designate A/S Contingency Hourly	6.5	3	3	3	9	7	7	14	23	Medium	High
A/S Maximum Capability Operating Limits for Spin and Non-Spin	6.7	7	3	3	13	7	3	10	23	Medium	
Multi-Settlement System for Ancillary Services	6.3	3	7	7	17	3	3	6	23	Medium	High
Transition to Auction Revenue Rights System	7.8	0	10	3	13	7	3	10	23	Medium	Medium
Release of CRR Options	7.6	0	0	7	7	7	7	14	21	Medium	Low
Revised Approach for Releasing and Tracking CRRs having a Trading Hub Source or Sink	7.5	0	7	3	10	7	3	10	20	Medium	Low
Sequential Physical Trading Capability	10.2	0	3	3	6	7	7	14	20	Medium	Medium
Ramp Rate Enhancements	4.2	3	3	7	13	3	3	6	19	Low	Low
Ancillary Services Substitution	6.1	3	3	3	9	7	3	10	19	Low	High
Multi-Hour Block Constraints in RUC	5.1	3	3	3	9	7	3	10	19	Low	Medium
Consideration of Non-RA Import Energy in the RUC Process	5.3	3	3	3	9	7	3	10	19	Low	Medium
Multi-Segment A/S Bidding	6.6	3	3	3	9	7	3	10	19	Low	Low
Forward Energy Products	10.1	3	3	3	9	7	3	10	19	Low	Low
Exports of Ancillary Services	6.2	0	0	3	3	7	7	14	17	Low	Low
Ancillary Services Self-Provision at the Interties	6.4	0	0	3	3	7	7	14	17	Low	Medium
Creation of a Full Hour Ahead Settlement Market	3.1	3	3	3	9	3	3	6	15	Low	Low
Consideration of UFE as Part of Metered Demand for Cost Allocation	4.3	0	3	3	6	7	3	10	16	Low	Low
RUC Self-Provision	5.4	0	3	3	6	7	3	10	16	Low	Low
30 Minute Operating Reserve	6.11	3	3	3	9	3	3	6	15	Low	High
Allocation of Intertie Capacity	9.2	3	3	3	9	3	3	6	15	Low	
CRR Source Verification after CRR Year One	7.2	0	0	3	3	7	3	10	13	Low	
Marginal Loss Hedging Products	2.11	0	3	3	6	3	3	6	12	Low	Low
Multiple SCs at a Single Meter	4.4	0	3	0	3	3	3	6	9	Low	Low

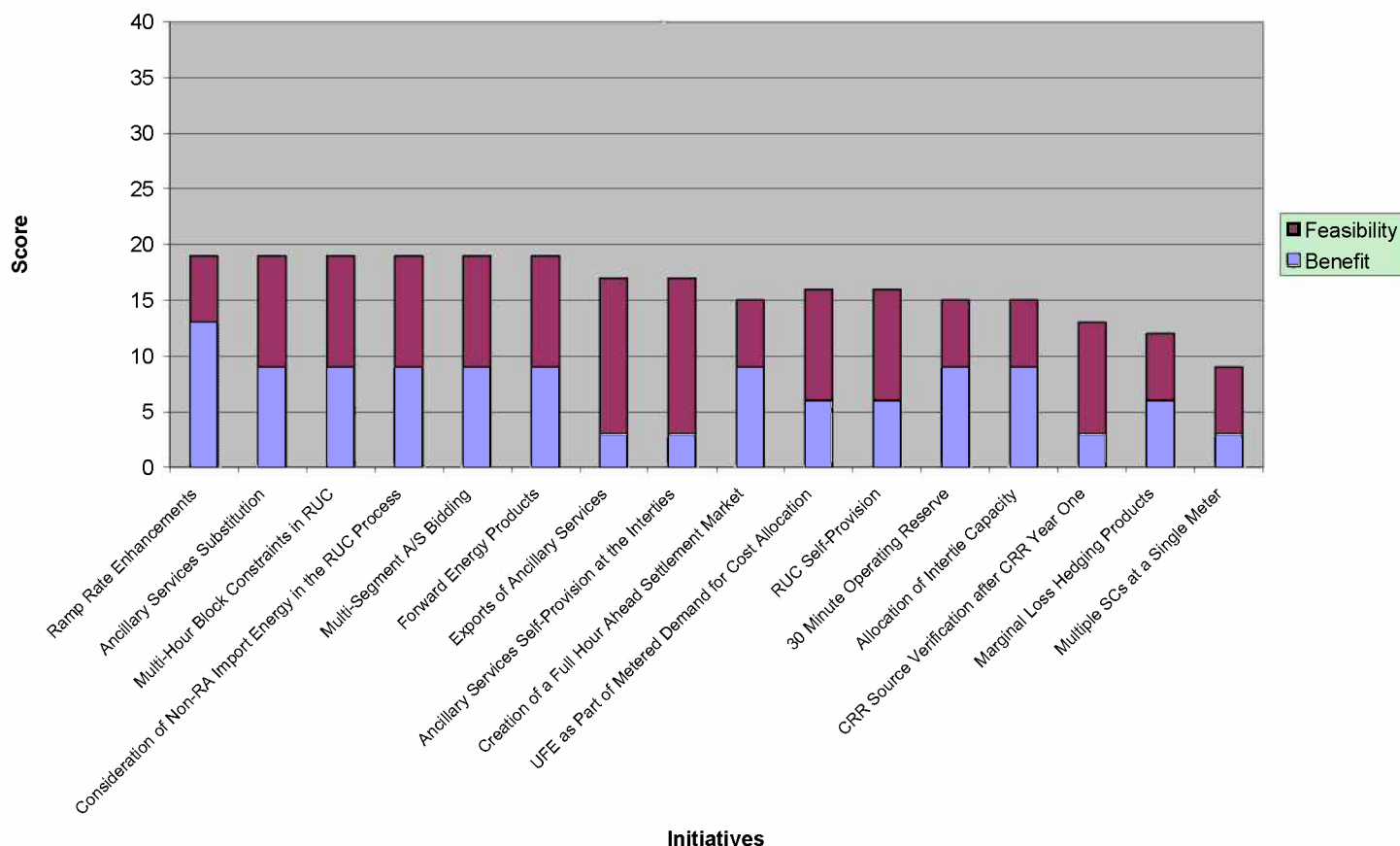
Preliminary Results - Ranked High



Preliminary Results - Ranked Medium



Preliminary Results - Ranked Low



4. FERC Mandated Enhancements

There are initiatives in the Market Design Initiatives Catalogue that were mandated by FERC to be implemented after the start up of MRTU, typically within a three year timeframe. These items (listed in order of their initial ranking) are:

Rank	FERC Mandated Enhancement
1	Bid Cost Recovery for Units Running over Multiple Operating Days
2	Load Aggregation Point Granularity
3	Two-Tier Rather than Single Tier Real-Time Bid Cost Recovery
4	Long Term CRR Auction
5	Ancillary Services Substitution
6	Multi-Hour Block Constraints in RUC
7	Exports of Ancillary Services

n/a	Successor to ICPM (not ranked due to established timing parameters)
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5. Initiatives that were Not Considered in the High Level Ranking

5.1 Market Enhancements that the ISO is committed to implement

The Market Design Initiatives Catalogue is intended to be a compilation of all of the market design initiatives. At any given time there will be market design initiatives listed in the catalogue that are in process or that the ISO has committed to implement. They are designated with an "I". Due to the fact that they are already underway, there is no need for including them in the ranking process. The following table lists the market design initiatives listed in the catalogue are already on track for processing.

Catalogued Initiatives that are In Progress
Convergence Bidding
Scarcity Pricing
Demand Response
Study of Marginal Loss Surplus Allocation to Regional Measured Demand
Economic Methodology to Determine if a Transmission Outage needs to be Scheduled 30 days prior to the Outage Month
Sale of CRRs in the CRR Auctions

5.2 Non-Discretionary Market Enhancements

The table below shows the market design initiatives that are listed in the catalogue as non-discretionary. These items will not be ranked because there are issues related to the timing of the completion that do not lend themselves to ranking.

Catalogued Initiatives that are Non-Discretionary
Revise Load Migration Process (regulatory requirement)
Dynamic Scheduling (Import and Export) for Load and Generation

6. Detailed Ranking Process

After determining the results of the high level prioritization, the highest ranking initiatives are ranked again using more detailed criteria based on stakeholder input. Each of these criteria has a weight associated with it, based on its relative importance. The weighting is a scale from 1 to 10 with 10 being the highest weight. For example, "Grid Reliability" is assigned a weight of 10 because it is a core function of the CAISO while "Process Improvement", an important but not

critical criterion, is ranked substantially lower at 5. Those proposed market initiatives that are ranked highest will be considered in the Corporate Strategic Planning Process.

The detailed ranking of initiatives is scheduled to begin the first week in August.

7. Next Steps

A stakeholder meeting will be held on Thursday July 23, 2009 to discuss these preliminary ranking results. The ISO is requesting that any stakeholder interested in making a presentation at that meeting regarding their ranking suggestions contact Cindy Hinman at chinman no later than Monday July 20.

We are also looking for stakeholder's written comments regarding these ranking results. These comments are due no later than Thursday, July 30. The rankings will be re-analyzed and potentially revised based on stakeholder input.

Once the list of the highest priority initiatives has been finalized, a straw proposal will be prepared. This will be followed by a stakeholder conference call and submission of stakeholder written comments. The proposed schedule for these activities is:

August 10 – Publish straw proposal for high priority enhancements

August 17 – Stakeholder conference call to discuss straw proposal

August 24 – Stakeholder comments due.

The draft final proposal, conference call and comments are scheduled for dates September. The final results will be incorporated in the Corporate Strategic Planning Process.