

# Draft Final Proposal - Detailed Ranking of High Priority Market Enhancements September, 2009

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Market and Infrastructure Development

# Draft Final Proposal - Detailed Ranking of High Priority Market Enhancements

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# Draft Final Proposal - Detailed Ranking of High Priority Market Enhancements September, 2009

#### 1. Executive Summary

The California ISO has now performed the second or "Detailed Ranking" step in the process of ranking discretionary market initiatives described in the "Updated Catalogue of Market Design Initiatives, August, 2009". In doing so the ISO has followed the formalized two step ranking process that was approved by the California ISO Board of Board of Governors in March 2007. The two-step ranking process is not intended to be conclusive or prescriptive, but rather to provide critical input to the ISO for developing a corporate strategic plan followed by the market design stakeholder process for each initiative. It is important to note that the initiatives themselves do not pre-suppose a particular outcome; rather they are a starting point for a stakeholder process to work out the details of the effort. This effort may be followed by a tariff stakeholder process, a BPM stakeholder process and a release planning process. This report presents the results of the detailed ranking step, explains the rationale for the high-priority rankings and describes the upcoming activities the ISO has planned in the Market Initiatives Roadmap process.

By way of summary, the following initiatives received high-priority rankings in this second step of the process. Each of these initiatives is discussed in greater detail later in this paper.

- Enhancement to the Standard RA Capacity Product
- Rules to Encourage Dispatchability of Wind and Solar Resources
- Load Aggregation Point Granularity
- Rules and Procedures for Applying the Resource Adequacy Must Offer Obligation for a Subset of Hours
- Enhanced Dec Market (new)
- Multi-Day Unit Commitment in the IFM
- Potential Modifications to Market Rules for Day Ahead Intertie Schedules
- Bid Cost Recovery for Units Running Over Multiple Operating Days
- Simultaneous RUC and IFM

#### 2. 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 ensuring its completeness. A

<sup>&</sup>lt;sup>1</sup> In one example the results of the "30 Minute Ancillary Services Product" stakeholder process (which was a high ranking initiative in 2008) determined that the appropriate course of action was to evaluate whether this product was the appropriate alternative to solve the problem that had been identified.

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 detailed ranking performed by staff in 2009 and further re-assessed based on stakeholder comments received on the preliminary results of the detailed ranking. Stakeholders will utilize this document to provide final comment on the results of the 2009 detailed ranking process.

#### 3. High Level Ranking Process

The CAISO conducted its high level assessment of proposed market initiatives published in the 2009 Market Design Initiatives Catalogue<sup>2</sup> 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".

|   | Figure A - CAISO HIGH LEVEL PRIORITIZATION CRITERIA |                                                                |                                     |                                     |                                           |                       |  |  |  |  |
|---|-----------------------------------------------------|----------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------|-----------------------|--|--|--|--|
| # |                                                     | Criteria                                                       | HIGH                                | MEDIUM                              | LOW                                       | NONE                  |  |  |  |  |
|   |                                                     |                                                                | 10                                  | 7                                   | 3                                         | 0                     |  |  |  |  |
| 1 |                                                     | Grid Reliability                                               | Significant<br>Improvement          | Moderate<br>Improvement             | Minimal<br>Improvement                    | No<br>Improvement     |  |  |  |  |
| 2 | Benefit                                             | Improving Overall Market Efficiency                            | Significant<br>improvement          | Moderate<br>improvement             | Minimal<br>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<br>desire |  |  |  |  |
| 4 | Feasibility                                         | Market Participant Implementation<br>Impact (\$ and resources) | No Impact                           | Minimal<br>Impact                   | Moderate<br>Impact                        | Significant<br>impact |  |  |  |  |
| 5 | Feas                                                | ISO Implementation Impact (\$ and resources)                   | No Impact                           | Minimal<br>Impact                   | Moderate<br>Impact                        | Significant<br>impact |  |  |  |  |

 $<sup>^2</sup>$  All documents related to the market design initiatives process can be found at  $\underline{\text{http://caiso.com/1fb1/1fb1856366d60.html}}\;.$ 

#### 4. Detailed Ranking Process

Like the process for the high level ranking, the detailed ranking process was performed by ISO staff comprised of subject matter experts from many departments including Market Design, Operations, Project Management, and IT. They evaluated the list of initiatives using the detailed criteria described below and were also guided by the key corporate goals established for 2009 focusing on renewable integration. The detailed ranking criterion incorporates all of the elements of the high level ranking process and includes other criteria that further define the benefits and feasibility of each initiative.

The criterion have not changed from previous years although some of the impact definitions have been modified in the feasibility area. This was done to provide a better range for each element. For instance, in past years the Market Participant Implementation Cost with a ranking of "10" was described as "No cost". In the 2009 ranking criteria it has become "0 to minimal cost". Here is how each description changed:

| Pre-2009 Description | 2009 Description             |
|----------------------|------------------------------|
| No Cost              | 0 to Minimal Cost            |
| Minimal Cost         | Minimal to Moderate Cost     |
| Moderate Cost        | Moderate to Significant Cost |
| Significant Cost     | Significant Cost             |

The following table displays the criteria used in the detailed ranking process: Each of the initiatives was evaluated using these criteria and the evaluation will be described in the sections that follow.

|    |          |                                                                         |         | DETAILED F                           | RANKING CRITER                              | IIA                                       |                               |
|----|----------|-------------------------------------------------------------------------|---------|--------------------------------------|---------------------------------------------|-------------------------------------------|-------------------------------|
| #  |          | Criteria                                                                | Weight  | HIGH                                 | MEDIUM                                      | LOW                                       | NONE                          |
| 12 |          | Officia                                                                 | vveignt | 10                                   | 7                                           | 3                                         | 0                             |
| 1  |          | Grid Reliability                                                        | 10      | Significant Improvement              | Moderate Improvement                        | Minimal Improvement                       | No Improvement                |
| 2  |          | Improving CAISO Market<br>Efficiency                                    | 10      | Significant improvement              | Moderate improvement                        | Minimal improvement                       | No impact                     |
| 3  | Benefit  | Promote Efficient<br>Infrastructure Development                         | 10      | Significant improvement              | Moderate improvement                        | Minimal improvement                       | No improvement                |
| 5  |          | Desired by Market<br>Participants                                       | 10      | Universally desired by MP            | Desired by majority of MP                   | Desired by a small subset of MP           | No apparent desire            |
| 6  |          | Process Improvement (ISO & MP)                                          | 5       | Significant improvement              | Moderate improvement                        | Minimal improvement                       | No impact                     |
| #  |          | Criteria                                                                | Weight  | NONE                                 | LOW                                         | MEDIUM                                    | HIGH                          |
|    |          | Silvini                                                                 |         | 10                                   | 7                                           | 3                                         | 0                             |
| 7  |          | Market Participant<br>Implementation Cost                               | 7       | No impact to Minimal Impact          | Minimal Impact to Moderate<br>Impact        | Moderate Impact to Significant<br>Impact  | Significant Cost              |
| 8  |          | Market Participant<br>Implementation impact on<br>systems and resources | 7       | No impact to Minimal Impact          | Minimal Impact to Moderate Impact           | Moderate Impact to Significant<br>Impact  | Significant Impact            |
| 9  | <u>≓</u> | Impact on Market Participant ongoing operating costs                    | 7       | 0 to Minimal ongoing operating costs | Minimal to Moderate ongoing operating costs | Moderate to Major ongoing operating costs | Major ongoing operating costs |
| 10 | Feasi    | ISO Implementation Cost                                                 | 10      | < \$1M                               | >\$1M, <\$5M                                | >\$5M, <\$10M                             | >\$10M                        |
| 11 |          | ISO Implementation impact on systems and resources                      | 7       | No impact to Minimal Impact          | Minimal Impact to Moderate Impact           | Moderate Impact to Significant Impact     | Significant Impact            |
| 12 |          | Impact on ISO Ongoing<br>Operating Costs                                | 7       | 0 to Minimal ongoing operating costs | Minimal to Moderate ongoing operating costs | Moderate to Major ongoing operating costs | Major ongoing operating costs |

#### 5. 2009 Detailed Ranking Results

Eight of the nine market initiatives described in this section ranked high in the high level prioritization that was performed in July, 2009 and one, "Enhanced Dec Market" which was added to the catalogue more recently, underwent the primary ranking process at a later date. It was determined that the Enhanced Dec Market also ranked high (as opposed to medium or low).

Note that in the initial results of the high level ranking process there were four additional initiatives that ranked high that are not represented in this section because they are no longer "discretionary" rankable items. Two of these initiatives, "Ability to Bid Start Up and Minimum Load Costs and Market Power Mitigation for Start Up and Minimum Load Cost Bids" and "Use of Weighted Least Squares CRR Optimization Algorithm" are already in progress and no longer need to be prioritized against the other initiatives.

Because they both deal with a similar set of resources it made sense to combine "Day Ahead Scheduling of Intermittent Resources" with "Rules to Encourage Dispatchability of Wind and Solar Resources" (which was also ranked high).

Finally, "Addressing Ramping Capacity Constraints" was broadened to include consideration of potential new A/S products and has been changed to a non-discretionary item. The ISO is currently considering how to effectively deal with the ramping issues that are impacting grid and market operations.

The following table shows the ranking of the high level initiatives. The sections that follow describe each initiative individually with a discussion of the scores.

| (A) High Level Prioritization of Market Enhancements           |      | ( C)<br>Grid Reliability | (D)<br>Improve Market<br>Efficiency | Promote<br>Efficient | (F)<br>Desired by<br>Market<br>Participants | Process<br>Improvement | (H)<br>Total Benefit<br>(<br>C)+(D)+(E)+(F)<br>+(G) |   | Impact Systems | MP | ISO<br>Implementation<br>Impact \$ | Impact Systems | (N) ISO Implementation Impact Ongoing Costs |     | (P)<br>Total Score |
|----------------------------------------------------------------|------|--------------------------|-------------------------------------|----------------------|---------------------------------------------|------------------------|-----------------------------------------------------|---|----------------|----|------------------------------------|----------------|---------------------------------------------|-----|--------------------|
| Weight                                                         |      | 10                       | 10                                  | 10                   | 10                                          | 5                      |                                                     | 7 | 7              | 7  | 10                                 | 7              | 7                                           |     |                    |
| Enhancements to Standard<br>RA Capacity Product                | 8.1  | 3                        | 7                                   | 7                    | 7                                           | 7                      | 275                                                 | 7 | 7              | 7  | 10                                 | 7              | 10                                          | 366 | 641                |
| Rules to Encourage Dispatchability of Wind and Solar Resources | 4.1  | 10                       | 10                                  | 10                   | 7                                           | 7                      | 405                                                 | 3 | 3              | 7  | 7                                  | 3              | 7                                           | 231 | 636                |
| Load Aggregation Point<br>Granularity                          | 2.11 | 7                        | 10                                  | 10                   | 3                                           | 7                      | 335                                                 | 3 | 3              | 7  | 10                                 | 3              | 10                                          | 282 | 617                |
|                                                                | 8.3  | 7                        | 3                                   | 0                    | 7                                           | 7                      | 205                                                 | 7 | 7              | 10 | 10                                 | 7              | 7                                           | 366 | 571                |
| Enhanced DEC Market                                            | 4.6  | 7                        | 7                                   | 0                    | 3                                           | 7                      | 205                                                 | 7 | 7              | 7  | 10                                 | 7              | 10                                          | 366 | 571                |
| Multi-Day Unit Commitment<br>in the IFM (2 - 3 days)           | 2.4  | 7                        | 7                                   | 0                    | . 7                                         | 7                      | 245                                                 | 3 | 7              | 7  | 7                                  | 3              | 7                                           | 259 | 504                |
| intente schedules                                              | 2.15 | 7                        | 3                                   | 0                    | 3                                           | 3                      | 145                                                 | 7 | 7              | 7  | 10                                 | 7              | 7                                           | 345 | 490                |
| Operating Days                                                 | 2.8  | 0                        | 3                                   | 0                    | 7                                           | 0                      | 100                                                 | 7 | 7              | 7  | 10                                 | 7              | 7                                           | 345 | 445                |
| Simultaneous RUC and IFM                                       | 5.2  | 3                        | 3                                   | 3                    | 3                                           | 3                      | 135                                                 | 7 | 3              | 7  | 3                                  | 0              | 7                                           | 198 | 333                |

#### 5.1 Enhancements to the Standard RA Capacity Product

In 2009 FERC substantially approved a tariff amendment to implement a standard resource adequacy capacity product. The intention of this product (among other things) is to provide availability standards for all RA resources. The ISO's filing on this matter deferred the implementation of availability standards for some types of generation, including wind, solar, demand response and Qualifying Facilities. FERC directed the ISO implement these standards for the deferred resource types as soon as possible.

The high level ranking showed that this initiative provided moderate improvement in the areas of grid reliability and improve market efficiency; it was desired by a majority of the market participants and had minimal feasibility impact on both the ISO and market participants. During the detailed ranking the Grid Reliability score was changed to reflect minimal improvement rather than moderate and the ISO Implementation Impact (\$) went from a minimal impact (7) to a <\$1million (10).

After the high level ranking exercise, market participant comments primarily agreed with the ISO's scores, although some cautioned that the timeline would need to be coordinated with the CPUC. CMUA, CalWEA and NCPA felt that our ranking was too high for this item.

The ISO received four sets of comments related to this initiative after the preliminary detailed ranking. Most were supportive although the comments from CalWEA, Large Solar Association, AWEA and Phoenix Consulting (commenting collectively), suggested that all of the generation types that were initially deferred from the availability standards are not alike and the ISO should focus on demand side resources first rather than including intermittents and Qualifying Facilities.

The detailed ranking came out as follows:

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 3     |
| Improving Market Efficiency                                    | 10     | 7     |
| Promote Infrastructure Development                             | 10     | 7     |
| Desired by Stakeholders                                        | 10     | 7     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 10    |
| ISO Implementation Impact (Systems & Resources)                | 7      | 7     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 10    |
| Total Benefit Score                                            |        | 275   |
| Total Benefit Feasibility Score                                |        | 366   |
| Total Score                                                    |        | 641   |

This can be found in the Market Design Initiatives Catalogue in Section 8.1.

#### 5.2 Rules to Encourage Dispatchability of Wind and Solar Resources

This initiative was grouped with "Day Ahead Scheduling of Intermittent Resources" during the detailed ranking process because both initiatives focused on the same types of resources and issues. As there is increased integration of renewable resources that reduce the dispatch flexibility there is a need for flexibility to re-dispatch such resources in the case of overgeneration or congestion.

The high level ranking showed that these efforts would have a significant impact on grid reliability and that ranking still stands in the detailed ranking; however the improvement to market efficiency increased from moderate to significant. The staff changed the Market Participant impact from minimal to moderate based on stakeholder's comments. The ISO's implementation impact was corrected from a moderate (3) impact to between \$1 and \$5 million (7) to reflect the input from subject matter experts during the detailed ranking sessions.

In the most recent set of stakeholder comments, this initiative continues to warrant the support of all who commented. It is clear that with State's RPS goals in mind, this is a critical initiative to implement. Some commenters requested more detail on the scope of this initiative and when the ISO begins a stakeholder process on this effort the key topic will be to determine what types of market design changes will enable these improvements.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 10    |
| Improving Market Efficiency                                    | 10     | 10    |
| Promote Infrastructure Development                             | 10     | 10    |
| Desired by Stakeholders                                        | 10     | 7     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 3     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 3     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 7     |
| ISO Implementation Impact (Systems & Resources)                | 7      | 3     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |
| Total Benefit Score                                            |        | 405   |
| Total Benefit Feasibility Score                                |        | 231   |
| Total Score                                                    |        | 636   |

This can be found in the Market Design Initiatives Catalogue in Section 4.1.

#### 5.3 Load Aggregation Point Granularity

FERC direct the ISO to increase the number of LAP zones within three years of the start of the new market to provide more accurate price signals and assist participants in the hedging of congestion charges.

Last year this initiative was ranked low, but this year the ranking has moved up in part because of the FERC directive as well as the impact on the implementation of Demand Response. The current LAP configuration inhibits the correct incentives due to the fact that these resources will be buying at the LAP and selling at the node. Further information regarding this issue can be found in the Market Surveillance Committee (MSC) opinion on this issue in "The California ISO's Proxy Demand Response (PDR) Proposal<sup>3</sup> published on May 1, 2009 and "Comments on Barriers to Demand Response and the Symmetric Treatment of Supply and Demand Resources" published on June 30, 2009.

When the ISO performed the high level ranking on this item the improvement to grid reliability was estimated to be moderate with a significant improvement to market efficiency. From a feasibility standpoint, the ISO believed that this would have a moderate implementation impact) on market participants and a minimal implementation impact on the ISO because the new market software is already configured to enable further granularity. We also believed that it was desired by a majority of stakeholders.

After listening to stakeholders at our stakeholder meeting, reading the comments that were submitted and further internal discussions, some of the scores have changed. In the detailed ranking the "desired by stakeholders" category was changed to reflect that a small subset of stakeholders want this initiative but changed the ISO implementation impact from minimal to \$0 to minimal.

In the most recent set of stakeholder comments on the preliminary detailed ranking of the high priority initiatives, BAMx, SCE, CCSF and PG&E stated that the ISO ranked this initiative too high, while SWP, Dynegy and JP Morgan supported the ranking or thought it should be higher. One commenter suggested that there may be impacts to previously allocated long term CRRs and the ISO acknowledges that this will need to be considered, but we have included those considerations in our current ranking.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 7     |
| Improving Market Efficiency                                    | 10     | 10    |
| Promote Infrastructure Development                             | 10     | 10    |
| Desired by Stakeholders                                        | 10     | 3     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 3     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 3     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |

<sup>&</sup>lt;sup>3</sup> http://www.caiso.com/241e/241eb5ba44d2.pdf

<sup>4</sup> http://www.caiso.com/23de/23dea1db21b0.pdf

| ISO Implementation Impact (\$)                  | 10 | 10  |
|-------------------------------------------------|----|-----|
| ISO Implementation Impact (Systems & Resources) | 7  | 3   |
| ISO Implementation Impact (Ongoing Costs)       | 7  | 10  |
| Total Benefit Score                             |    | 335 |
| Total Benefit Feasibility Score                 | 3  | 282 |
| Total Score                                     |    | 617 |

This item can be found in the catalogue in Section 2.11

## 5.4 Rules and Procedures for Applying the Resource Adequacy Must Offer Obligation for a Subset of Hours

Currently RA resources that are subject to the RA Must Offer Obligation are required to provide that capacity 24 hours per day, seven days a week. In order to better align with the CPUC rules for RA, the ISO is considering a way to develop policy provisions to designate an RA resource as subject to the RA MOO for a subset of hours.

The high level ranking shows that this initiative would provide moderate improvement to grid reliability and market efficiency. The ISO suggested that it was desired by a majority of stakeholders and the feasibility impact would be insignificant to market participants and minimal for the ISO.

Based on stakeholder comments the market participant implementation impact was changed to minimal. There were few written comments regarding this initiative, but they were all supportive of the ranking. This sentiment carried over in the most recent set of comments although Dynegy was concerned that this could become another "out" for resources that are not fully dispatchable but count in full toward their RA obligation.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 7     |
| Improving Market Efficiency                                    | 10     | 3     |
| Promote Infrastructure Development                             | 10     | 0     |
| Desired by Stakeholders                                        | 10     | 7     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 10    |
| ISO Implementation Impact (\$)                                 | 10     | 10    |
| ISO Implementation Impact (Systems & Resources)                | 7      | 7     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |

| Total Benefit Score             | 205 |
|---------------------------------|-----|
| Total Benefit Feasibility Score | 366 |
| Total Score                     | 571 |

This item can be found in the catalogue in Section 8.3

#### 5.5 Enhanced Dec Market

Currently accepted day ahead energy bids are turned into the equivalent of 'day ahead self schedules' for the purposes for the real-time market. In this proposal if a Scheduling Coordinator does not submit any DEC bids associated with its accepted IFM energy schedule, then economic bids submitted and cleared in the Day Ahead Market would automatically flow into the Real Time Market and would be included with DEC bids that are submitted solely into the Real Time Market. Parties who want to override this default will be able to submit real time bids or self schedules.

This initiative is not contemplated to include changes to the DEC bid floor.

Three stakeholders commented on this initiative, JP Morgan supported the ISO ranking, PG&E asked for more explanation (provided above) and Powerex was concerned about the fact that this was raised in 2008 and stakeholders opposed the idea.

The rankings below reflect the results of both the high level and detailed ranking on this item.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 7     |
| Improving Market Efficiency                                    | 10     | 7     |
| Promote Infrastructure Development                             | 10     | 0     |
| Desired by Stakeholders                                        | 10     | 3     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 10    |
| ISO Implementation Impact (Systems & Resources)                | 7      | 7     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 10    |
| Total Benefit Score                                            |        | 205   |
| Total Benefit Feasibility Score                                |        | 366   |
| Total Score                                                    |        | 571   |

This item can be found in the catalogue in Section 4.6.

#### 5.6 Multi-Day Unit Commitment in the IFM

Currently the forward looking time horizon in IFM is one day, taking into account the impact of prior commitment of units with very long start up times. Stakeholders requested that the ISO make commitment decisions in the IFM that look out two to three days in order to create a commitment decision that is more efficient.

This initiative also includes the Extra Long Start deferred functionality which was ordered by FERC as well as the Initial Conditions Management requested by PG&E.

Stakeholders who commented supported this initiative with the exception of Dynegy who wanted to consider whether the magnitude of the issue (not very many ELS resources) warranted it to be a high priority item. PG&E also suggested that Initial Conditions Management could be implemented independently of the Multi-Day Unit Commitment.

The high level ranking shows that this initiative would provide moderate improvement to grid reliability and market efficiency. The ISO suggested that it was desired by a majority of stakeholders and the feasibility impact would be minimal to market participants and moderate for the ISO.

There were few stakeholder comments on this initiative, but all the comments received supported that this initiative should be ranked high.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 7     |
| Improving Market Efficiency                                    | 10     | 7     |
| Promote Infrastructure Development                             | 10     | 0     |
| Desired by Stakeholders                                        | 10     | 7     |
| Process Improvement (ISO & Market Participants)                | 5      | 7     |
| Market Participant Implementation Impact (\$)                  | 7      | 3     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 7     |
| ISO Implementation Impact (Systems & Resources)                | 7      | 3     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |
| Total Benefit Score                                            |        | 245   |
| Total Benefit Feasibility Score                                |        | 259   |
| Total Score                                                    |        | 504   |

This item can be found in the catalogue in Section 2.4.

### 5.7 Potential Modifications to Market Rules for Day Ahead Intertie Schedules

To improve reliable grid operation and clarify market rules, the ISO is considering tariff changes to clarify the timeline for submitting e-tags for imports and exports that are scheduled or accepted in the Integrated Forward Market (IFM).

In recent discussions related to convergence bidding it was revealed that this initiative is a prerequisite for implementation of that initiative. As such the ISO intends to begin a stakeholder process in the coming months to design these market rule modifications.

The high level ranking shows that this initiative would provide moderate improvement to grid reliability and minimal improvement to market efficiency. The ISO suggested that it was desired by a subset of stakeholders and the feasibility impact would be insignificant to market participants and less than \$1 million for the ISO.

Subsequently, in the high level ranking the market participant implementation impact was changed from insignificant (10) to between \$1 and \$5 million (7) and the ISO implementation impact was changed in the opposite direction based on stakeholder comments.

In the most recent round of comments, two stakeholders submitted comments in support of this initiative.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 7     |
| Improving Market Efficiency                                    | 10     | 3     |
| Promote Infrastructure Development                             | 10     | 0     |
| Desired by Stakeholders                                        | 10     | 3     |
| Process Improvement (ISO & Market Participants)                | 5      | 3     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 10    |
| ISO Implementation Impact (Systems & Resources)                | 7      | 7     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |
| Total Benefit Score                                            |        | 145   |
| Total Benefit Feasibility Score                                |        | 345   |
| Total Score                                                    |        | 490   |

This item can be found in the catalogue in Section 2.15.

#### 5.8 Bid Cost Recovery for Units Running Over Multiple Operating Days

This initiative aims to institute a change to the Bid Cost Recovery calculation to reflect the true net revenue of units with run times that cross operating days.

When the ISO performed the high level ranking on this item, it scored as a moderate improvement to grid reliability and market efficiency. The ISO believed that it would be desired by a majority of stakeholders and it would have minimal impact on feasibility for both the ISO and market participants.

When this was re-ranked with additional subject matter experts present, the benefits rankings on this initiative dropped. Most market participants who commented felt that the feasibility had been underestimated.

In the most recent set of comments, one stakeholder commented in support of this initiative.

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 0     |
| Improving Market Efficiency                                    | 10     | 3     |
| Promote Infrastructure Development                             | 10     | 0     |
| Desired by Stakeholders                                        | 10     | 7     |
| Process Improvement (ISO & Market Participants)                | 5      | 0     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 7     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 10    |
| ISO Implementation Impact (Systems & Resources)                | 7      | 7     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |
| Total Benefit Score                                            |        | 100   |
| Total Benefit Feasibility Score                                |        | 345   |
| Total Score                                                    |        | 445   |

This item can be found in the catalogue in Section 2.8.

#### 5.9 Simultaneous RUC and IFM

In the current MRTU design Residual Unit Commitment (RUC) is performed after completion of the IFM and does not impact day ahead market energy, ancillary services (A/S), and congestion/CRR pricing and settlement. The issue here is whether to perform IFM and RUC simultaneously, and if so, how.

When the ISO performed the high level ranking on this item, it scored as a moderate improvement to grid reliability and market efficiency. The ISO believed that it would be desired by a majority of stakeholders and it would have minimal impact on feasibility for market participants and moderate impact for the ISO.

When this was re-ranked with additional subject matter experts present, the benefits rankings on this initiative dropped considerably and the feasibility had been somewhat underestimated.

There were three sets of comments on the preliminary detailed ranking that supported this initiative

| Objective                                                      | Weight | Score |
|----------------------------------------------------------------|--------|-------|
| Grid Reliability                                               | 10     | 3     |
| Improving Market Efficiency                                    | 10     | 3     |
| Promote Infrastructure Development                             | 10     | 3     |
| Desired by Stakeholders                                        | 10     | 3     |
| Process Improvement (ISO & Market Participants)                | 5      | 3     |
| Market Participant Implementation Impact (\$)                  | 7      | 7     |
| Market Participant Implementation Impact (Systems & Resources) | 7      | 3     |
| Market Participant Implementation Impact (Ongoing Costs)       | 7      | 7     |
| ISO Implementation Impact (\$)                                 | 10     | 3     |
| ISO Implementation Impact (Systems & Resources)                | 7      | 0     |
| ISO Implementation Impact (Ongoing Costs)                      | 7      | 7     |
| Total Benefit Score                                            |        | 135   |
| Total Benefit Feasibility Score                                |        | 198   |
| Total Score                                                    |        | 333   |

This item can be found in the catalogue in Section 5.2.

#### 6. Next Steps

The following schedule is planned for the 2009 Market Design Initiative Roadmap Process:

#### September

- 9/25 Stakeholder conference call to review Draft Final proposal
- 10/2 Final Comments due regarding the detailed ranking for the High Priority Enhancements

#### Fourth Quarter

- Internal process to coordinate results of Draft Final Proposal and High Priority Enhancements with Corporate Strategic Planning Process

Ongoing – Update Market Design Catalogue and periodically communicate updates.