



California Independent  
System Operator Corporation

February 2, 2009

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: Monthly Status Report re MRTU, California Independent  
System Operator Corporation  
Docket No. ER06-615**

Dear Secretary Bose:

Enclosed for filing in the above-captioned docket, please find an electronic copy of the February 2009 MRTU Status Report of the California Independent System Operator Corporation.

Respectfully submitted,

**/s/ Sidney M. Davies**

Sidney M. Davies

Anna McKenna

California Independent System

Operator Corporation

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Attorneys for the California Independent  
System Operator Corporation



the CAISO is pleased to report that it is on track for a March 31 *go-live* date. Among the 13 “known issues” requiring resolution, four are now resolved and the CAISO has identified firm dates by which the remaining nine other known issues will be resolved. The CAISO is also on track for meeting the remaining milestones that must be completed before *go live*. The CAISO continues to prepare for MRTU. As discussed in the attached report, the CAISO continues to study prices, improve the ability of Market Participants to verify and understand settlement charges; and prepare for actual MRTU operations. At this time, subject to resolution of the remaining known issues and completion of essential milestones, the CAISO is not aware of any impediment that would interfere with a March 31, 2009 MRTU implementation.

Respectfully submitted,

**/s/ Sidney Mannheim Davies**

Sidney Mannheim Davies  
Anna A. McKenna

Counsel for the California Independent  
System Operator Corporation

Dated: February 2, 2009

## CERTIFICATE OF SERVICE

I hereby certify that I have caused the public version of the foregoing document to be served upon the Public Utilities Commission of the State of California and upon all parties of the official service lists maintained by the Secretary for Docket No. ER06-615.

Dated at Folsom, California, this 2<sup>nd</sup> day of February 2009.

**/s/ Jane Ostapovich**  
Jane Ostapovich



California ISO  
Your Link to Power

# February

# Readiness Report for MRTU

Market Redesign & Technology Upgrade

**Federal Energy Regulatory Commission**

**February 2, 2009**

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## 1. Executive Summary

The California Independent System Operator Corporation (ISO) provides this status report to inform the Federal Energy Regulatory Commission (FERC) of the activities underway in preparation for the Market Redesign & Technology Upgrade (MRTU) launch set for March 31, 2009.

The ISO continues to collaborate closely with Market Participants to prepare for MRTU implementation and to ensure that systems, processes, procedures and individuals are ready for *go-live*. These joint efforts are successfully addressing potential implementation impediments and will help ensure a success program launch.

External readiness activities are focused on MRTU quality of price solution and settlements as discussed below. While the bulk of issues are resolved or will be addressed before launch, some participant concerns remain. The ISO understands the concerns and will continue to do all it can to address them.

Internal preparations are centered on the readiness status of Grid Operations and the Department of Market Monitoring (DMM). Recent achievements and activities for these areas are related below.

ISO Management's level of confidence regarding the readiness status of the ISO and participants for a successful MRTU launch remains strong and the ISO will continue to address any additional issues presented and provide regular status updates to the Commission and participants.

## 2. Current State of Readiness

### 2.1. Quality of Price Solution

The ISO remains confident of the quality of solution produced by MRTU systems. Since the Readiness Certification filed with the Commission on January 16, 2009, the ISO continues to monitor solution results and respond to participant questions. Additionally, analysis recently completed by the DMM concluded that the MRTU markets performed well in structured market simulation. DMM did not see any performance issues that warrant a delay in MRTU implementation but urged the ISO to conduct a more in-depth assessment of the more extreme pricing outcomes in the December structured pricing tests. This analysis is scheduled for presentation at a stakeholder meeting on February 19, 2009.

The ISO continues to devote the necessary resources for review of extreme prices and will take any necessary corrective actions if needed. Additionally, an ISO team is reviewing the network model to ensure it is as accurate as possible before *go-live*. The ISO also continues to examine how system parameters affect prices and will revise them as needed to minimize their adverse impact. The ISO believes these activities will further improve the quality of MRTU pricing results.

The ISO has just received Commission approval on two tariff amendments that help alleviate concerns over pricing matters: 1) the authority to cap prices to mitigate the risk of incorrectly produced prices that may be unreasonably high; and 2) the expansion of the existing validation and correction processes to allow the ISO to block publication of anomalous prices thereby allowing time for review and ensuring that released prices are correct. The ISO is developing the business process necessary to implement this authority.

The ISO will monitor MRTU prices throughout program implementation and after *go-live* and consider appropriate actions in the event program systems produce anomalous prices. The ISO believes there are no material issues with quality of solution to impede MRTU implementation on March 31, 2009.

## **2.2. Settlements**

The ISO continues to work with participants on a regular basis to help validate settlement charge codes and complete the development worked needed on participant shadow settlements systems. Settlement statements are published on a daily and monthly basis and a recalculation of December statements is also being conducted.

MRTU December settlement statements are unusually high relative to statements normally experienced in similar production periods. ISO analysis of the statements found several contributing factors, some having to do with participants' simulation bidding and others with MRTU system settings. The ISO believes the charge codes are calculating properly and the unusual statement results are based upon erroneous data estimates and low participation levels.

Many of the settlements issues are directly related to circumstances unique to the simulation environment and a desire to ensure that all charge codes were triggered which in some cases required deviations. An example is the estimated meter data used for MRTU settlements. To compensate for missing participant data and to activate and validate specific MRTU charge codes, the ISO used estimated meter data based on Integrated Forward Market (IFM) awards. As of January 14, 2009, the meter data estimation was revised from a 10% load deviation to 3% with the generation deviation remaining at 0%. It is important to note that participants continue to have the opportunity to overwrite data on trade day plus two to true up their meter data based on MRTU bids, market outcomes and settlements results. The ISO believes these adjustments will have a significant impact and will result in lower total charges on the December statements.

Some of the excessive charges are attributable to limited participation in simulation tests during the last half of December, due in large part to the holidays. The low level of bids and schedules received during this time produced anomalous high

prices. For example, a large amount of unscheduled load on December 26 produced a significant impact on that day's market results.

The ISO also discovered a few settings and issues within MRTU systems and procedures, most of which are substantially resolved. The following is a list of the contributing factors identified and fixed to date:

1. An error was discovered in the aggregation calculation for Unaccounted for Energy (UFE) resulting in excessive prices. The ISO believes this issue yielded the largest adverse impact, increasing the UFE charges for one Utility Distribution Company (UDC) six-fold. This issue with charge code 6474 was addressed as of trade date January 1, 2009.
2. An incorrect price component in the Real-Time Marginal Congestion Component Price produced high settlements amounts, resulting in market participant impacts totaling \$10-60 million for the month. This issue with charge code 6774 was corrected as of trade date January 12, 2009.
3. As discussed above, the ISO was using estimated meter data with a 10% deviation from IFM awards. That deviation, affecting charge code 6475 was reduced to 3% effective trade date January 14, 2009. The generation estimate remains at 100% of IFM awards (with no deviation) and does not reflect changes made in the real-time market.

The ISO continues to analyze December's MRTU settlements statements and will provide additional details as they become available. Since many of the issues were corrected in early January, the ISO is expediting delivery of Settlements Recalculation Statements to provide participants with updated statement totals for December. To date, the ISO has already recalculated through December 22 and will complete December recalculations including monthly statements and invoices by February 6. Following the completion of December recalculations, the ISO will begin a recalculation process for January. The revised publication calendar for MRTU settlements statements is at: <http://www.caiso.com/203d/203de6aacf80.xls>.

### **2.3. Parallel Operation Simulation**

The Parallel Operations Simulation continues, providing both the ISO and participants a daily opportunity to test and train on MRTU systems prior to *go-live*. The capabilities of the new MRTU environment are being progressively expanded to more closely reflect the ISO real-time production set-up. Simulation testing now incorporates the daily production load forecast and actual daily load and for limited test periods in January real-time production outages were used in the simulation environment.

The ISO is conducting System Operations Tests to ensure the ability of the ISO and participants to cutover to MRTU systems and coordinate market and reliability functions. These open and partial closed loop tests enable data transfers between the Energy Management System (EMS) and the Real-Time Market dispatch module to produce a market solution based on real-time load forecasts, load following

requirements and real time outages. The ISO successfully completed connectivity and load following tests in December and January.

The four remaining tests are described below with additional test detail provided in the System Operations Test Plan<sup>1</sup> available on the ISO website.

Test	Date/Duration	Test Description
4	Feb. 3-4	<b>Open Loop -- E-tagging</b> This test validates MRTU systems effectively communicate, differentiate market schedules and tagged energy, process interchange transactions and consume market related data for use in interchange management.
5	Feb. 9-10	<b>Open Loop -- Energy Management System (EMS)</b> This test leverages the results learned from test #4 and establishes the EMS production application with MRTU software to perform cutover activities in preparation for <i>go-live</i> . Applications transition from the GOTS simulator to the current production EMS, establishing the necessary communication links between MRTU and current production systems.
6	Feb. 11	<b>Partial Closed Loop -- Minimal AGC Resources</b> This test validates the requirements and procedures for similar cutover activities and establishes operations and communications for a prolonged activity with a select group of resources. The object is to review MRTU performance under partial closed loop conditions based on current production data versus simulated closed loop operations.
7	Feb. 13	<b>Partial Closed Loop -- AGC Resources (expanded scope)</b> This test leverages the results from test #6, expanding the scope to all regulating units that are cleared to provide service for the duration of the test.

#### 2.4. Grid Operations Readiness

The majority of ISO readiness efforts are now focused on Grid Operations, with a great deal of progress achieved in recent weeks. This preparation was purposefully set relatively close to *go-live* to ensure that grid operators are working with the final software and that training occurred close enough to *go-live* so the information is retained.

Operators continue to manage the day-to-day execution of the MRTU test markets, working with participants to maximize testing and training opportunities for both the ISO and participants. The MRTU testing/training team moves to the ISO operations floor in early February to facilitate greater synergy between real-time operation of the current ISO markets and the MRTU test markets. The System Operations Tests, as described in Section 2.3 of this report, will be conducted by this team in conjunction with market participants.

<sup>1</sup> The MRTU System Operations Test Plan is available at:  
<http://www.caiso.com/233d/233d841141020.pdf>.

At the same time, operator crews will continue to rotate through the training lab on a weekly basis to conduct practice runs and scenarios with MRTU systems. The ISO has established a set of 15 scenarios for operator training, which have been practiced to check necessary set-ups and execution. These scenarios provide hands-on practice for a variety of conditions ranging from normal operations to contingency situations and system emergencies. They will be used by all six of the Grid Operations crews, starting in February to better familiarize themselves with system functionality and the ability to maintain optimum grid control under differing conditions and contingency situations.

The Grid Operations staff is also working to test and confirm revised operating procedures and processes, and to finalize system functionality and operator displays in the ISO control room. Additional training curriculum to practice new procedures and document necessary workarounds will also be conducted before *go-live*.

## **2.5. Department of Market Monitoring Readiness**

Another critical aspect of ISO readiness is ensuring that DMM is fully prepared and has the proper tools to begin monitoring the MRTU markets on day one of the MRTU launch. Again, the accomplishments of recent weeks are considerable.

DMM's automated monitoring system and dedicated simulation tool are in place and are proving to be more consistently available. Work with the ISO Information Technology staff to further stabilize the systems continues. It is important that these systems are consistently available, working for all markets (the Day-Ahead, HASP, and Real-Time Markets) and regularly updated and synchronized with the same version of the market software that will be used following MRTU *go-live*.

In the time leading up to *go-live*, the DMM is focused on further refinement of monitoring metrics through shadow monitoring of the MRTU market simulation, completing calculations for Frequently Mitigated Units that are scheduled for release in February, and finalizing the competitive path assessments used in the Local Market Power Mitigation (LMPM) procedures by the end of February.

Other aspects of DMM readiness are complete, including additional monitoring tools, DMM staff training and development of a comprehensive market monitoring approach. This will enable DMM to monitor general market performance and specific areas of the MRTU market design such as LMPM effectiveness, bid parameters relating to unit operating characteristics, uninstructed deviations, activities on the interties, market up-lifts and load under-scheduling.

### 3. Cutover & Reversion Plan

The MRTU Cutover and Reversion Plan<sup>2</sup> describes the activities the ISO and participants will undertake to transition to the new MRTU markets as well as the process for reversion in the unlikely event that operations warrant a return to pre-MRTU systems. A series of participant meetings were hosted by the ISO to review and finalize cutover and reversion plans for both the ISO and participants. The ISO conducted walk-through meetings and question/answer teleconferences, one each for the cutover and reversion portions of the plan. On January 22, the ISO conducted a five-hour table top exercise with participants to review task lists, consider contingencies for critical areas and confirm the ISO plan is aligned with participant plans. The ISO will also exercise emergency scenarios to ensure the proper operating procedures are in place to deal with possible operations and market contingencies.

Two additional participant meetings are scheduled in February. A technical workshop will be held on February 5, 2009 to discuss possible technical challenges that could arise during cutover and reversion and to identify solutions. Then on February 18, at the monthly MRTU Implementation Workshop, cutover and reversion will occupy much of the meeting time to present a list of external reversion tasks and business continuity processes.

Pursuant to the Cutover and Reversion Plan, the ISO and Market Participants will undertake various activities, including testing, to ensure that they are able to transition smoothly (*i.e.*, cut over) from the currently effective ISO market design and software to the MRTU market system. The reversion portion of the plan describes the process for reverting to the pre-MRTU tariff in the unlikely event, and as a last resort, that the ISO finds that it cannot operate the grid reliably after all efforts to maintain operations under MRTU have been considered. The current goal is to finalize the MRTU Cutover and Reversion Plan by the end of February.

### 4. Remaining Activities & Essential Milestones

As discussed above, many critical MRTU-related activities and milestones are already complete. Certain activities and milestones still remain prior to implementation of MRTU. The primary remaining activities and milestones, and the anticipated time frame<sup>3</sup> by which the ISO expects they will be completed, are:

Timeframe	Activity/Milestone	Status
Jan. – Feb.	Continue to publish daily and monthly settlement statements to allow Market Participants to validate	On Track

<sup>2</sup> A draft of the MRTU Cutover & Reversion Plan is available on the ISO website at: <http://www.caiso.com/200c/200c82b849e30.pdf>

<sup>3</sup> Although the essential milestones need to be completed, the time frame for completion is estimated. Failure to meet a milestone within an estimated timeframe does not mean that MRTU should be delayed. So long as milestones are completed prior to *go-live* and operating properly, the ISO believes that the essential milestones will have been successfully met.

Timeframe	Activity/Milestone	Status
	Charge Codes and test their systems.	
<b>Jan. – March</b>	Continue to finalize procedures and exercise post <i>go-live</i> processes for grid operators.	On Track
<b>February</b>	Test “fail over” procedures for utilizing the ISO alternative Control Center.	On Track
	Finalize the MRTU Cutover and Reversion Plan.	On Track
	Develop a process to validate prices, and if necessary, correct them prior to publication. The ISO will use the price validation and correction tools already in place pursuant to the MRTU Tariff.	On Track
	Begin the process of allocating and auctioning monthly Congestion Revenue Rights to market participants for April 2009. <sup>4</sup>	On Track
<b>March</b>	Begin pre-production (on 3/1) and initiate cutover activities (on 3/15).	On Track
	Ten days prior to <i>go-live</i> , issue a Market Notice affirming continued MRTU readiness and reporting any pending requirements.	On Track
	Three days prior to <i>go-live</i> , issue a Market Notice confirming MRTU launch on March 31.	On Track
	At the end of March, PricewaterhouseCoopers will provide a certified audit opinion confirming that the MRTU settlements software calculates quantities and prices in compliance with the MRTU Tariff.	On Track

If for any reason the ISO determines that, due to an inability to attain any critical milestone, the ISO will be unable to implement MRTU as of March 31, 2009, it will so inform the Commission and Market Participants as soon as possible.

<sup>4</sup> The ISO completed its annual CRR allocation and auction process for 2009. To allow simulation practice with the CRRs, the ISO is incorporating the 2009 annual CRRs that were allocated and auctioned into the parallel operation simulation. While the ISO does not have CRRs for season 1, the ISO will be copying the season 2 CRRs to season 1 for Market Participants’ usage.

## 5. Known Issues Requiring Resolution Prior to Go-Live

The following are the known, significant issues pending resolution, as reported in the January 16 MRTU Readiness Certification filing. Four of the issues have been resolved in recent weeks. A status report on the resolution of these issues is provided to participants on a weekly basis.

No.*	ISSUE DESCRIPTION	MQC	STATUS
<b>PENDING</b>			
2	Systems should recognize and not shut down resources in real-time that are unable to honor their Day-Ahead Market commitments.	16570	Expected Delivery: 02/06 Expected Deployment: ASAP following patch validation
4	Tune Real-Time Market systems to ensure that an issue with Short-Term Unit Commitment (STUC) solution timing is resolved and solution infeasibilities are minimized.		Expected Delivery: 02/13 Expected Deployment: ASAP following patch validation
5	Honor resource start times in RUC and real-time, ensuring they are not dispatched earlier than is operationally feasible based on the unit's down time.	17085	Delivered: 01/29 Expected Deployment: ASAP following patch validation
6	Cross-hour ramping results are inconsistent for resources with multiple ramp rates and offering regulation ramps	15650	Expected Delivery: 02/13 Expected Deployment: ASAP following patch validation
7	Resource-specific prices are inconsistent with the associated Pricing Node or Aggregated Pricing Node prices.		Expected Delivery: 02/02 Expected Deployment: ASAP following patch validation
12	Correctly account for power flow losses by adjusting load when a direct current (DC) solution is necessary.	16014	Expected Delivery: 02/02 Expected Deployment: ASAP following patch validation
13	An inconsistent SIBR rule does not allow exports not associated with capacity from a supporting resource to receive the same high priority as exports that are associated with capacity from a supporting resource.	16266	Delivered: 01/23 Expected Deployment to SIBR-Lite: 02/04 Expected Deployment to SIBR: 02/16
<b>COMPLETE</b>			
1	Energy and cost accounting issues associated with real-time bids for Pumped-Storage Hydro Units.		Determined that software is executing correctly.
3	Add point of delivery pricing location to the Master File for resources modeled at locations other than their interconnection point which impacts Open Access Same-Time Information System (OASIS) reporting.		Deployed: 01/26

No.*	ISSUE DESCRIPTION	MQC	STATUS
8	Spin and non-spin quantities published in the ISO Market Results Interface (CMRI) are inconsistent with original SaMC Self-Provided Spin Capacity. This will resolve the observed dropping of self-provided spin and non-spin.		Deployed: 01/26
9	Adhere to WECC interchange scheduling convention that requires interchange values to be an integer value.	13497	Deployed: 02/02
10	OASIS calculations for Available Transmission Capability (ATC) and transmission usage need to correctly account for Existing Transmission Contract (ETC)/Transmission Ownership Right (TOR) rights.	12964	Deployed: 01/26
11	Enforce the daily energy limit of resources consistently in the Real-Time Market. It should be noted that daily Energy limit is a soft constraint and there may be legitimate solution reasons that daily Energy limit could be exceeded in extreme cases.	13800	Deployed: 02/02

## 6. Status of Commission Filings & Request for Commission Action

The Commission recently acted on many filings relating to the MRTU initiative and the ISO appreciates the efforts of the Commission and its staff in this regard. The ISO believes it is important for the Commission to act on certain additional filings prior to MRTU implementation. Commission action on these filings will resolve critical open questions that must be answered for a successful MRTU *go-live*. As such, the ISO respectfully urges the Commission to rule on the following filings by March 1, 2009, to reduce regulatory uncertainty for both the ISO and market participants:

- (1) July 21, 2008, request for clarification or in the alternative rehearing in Docket No. ER08-73 addressing how the ISO should calculate caps for Start-Up and Minimum Load Costs, and related compliance filing submitted on the same date.
- (2) July 21, 2008, request for clarification or in the alternative rehearing in Docket Nos. ER06-615 and ER07-1257 addressing the allocation to Metered SubSystems (MSS) of tier 2 IFM Bid Cost Recovery (BCR) Uplift Payments costs, and related compliance filing submitted on the same date.
- (3) November 4, 2008 filing in Docket No. ER09-240 adding software pricing parameters to the MRTU Tariff and addressing compliance with the Commission order regarding load aggregation demand clearing.
- (4) January 15, 2009 filing in Docket No. ER09-556-000 et al containing miscellaneous MRTU Tariff clarifications based on findings by the SAIC audit of the tariff, and other miscellaneous tariff clarifications.
- (5) January 29, 2009 filing in Docket No. ER09-589 concerning enhancements to the credit policies in the MRTU Tariff.

The ISO notes that action on a number of proposed tariff revisions related to ISO Exceptional Dispatch authority and payments to resources that receive Exceptional Dispatches are still pending before the Commission in Docket Nos. ER08-1178 and EL08-88. Although Commission action on these Exceptional Dispatch issues prior to *go-live* is not essential from a March 31, 2009 MRTU implementations perspective, resolution of these issues will provide greater certainty on compensation and settlement issues and will avoid the need for potentially burdensome refund calculations in the months after MRTU *go-live*. Similarly, on November 25, 2008, the ISO made its filing on compliance with the Commission's September 19, 2008 order on the Integrated Balancing Authority Area filing in Docket ER08-1113.<sup>5</sup> The ISO is proceeding with the implementation of the procedures for Market Efficiency Enhancement Agreements and the marginal losses adjustment procedures as proposed in its compliance filing. While an order is not essential from an operations perspective, confirmation of the approaches filed on compliance would avoid any refunds after *go-live*.

Also, the ISO has made or intends to make a number of additional filings with the Commission prior to MRTU implementation. The ISO does not believe it is necessary for the Commission to issue orders on these filings prior to MRTU *go-live*. Nevertheless, Commission orders on these pending matters prior to *go-live* would also serve to reduce regulatory uncertainty for both the ISO and market participants. The filings in this category include:

- (1) Metered-SubSystem agreements updated for MRTU (with the Northern California Power Agency, filed on November 7, 2008, in Docket No. ER09-259 and with Silicon Valley Power, filed on November 13, 2008, in Docket No. ER09-292).
- (2) May 19, 2008 Filing in Compliance with March 24, 2008 Order on Technical Conference and Compliance in Docket Nos. ER06-615-023 and ER07-1257-005.
- (3) Request for a waiver of OASIS requirements under MRTU that is similar to the existing waiver of OASIS requirements under the ISO current market design filed on January 23, 2009.
- (4) Filing to explain the calculation of Available Transfer Capability (ATC) under MRTU filed on January 15, 2009, in Docket No. OA08-12-004.
- (5) Filing to comply with directives in the Commission's December 19, 2008, order in Docket No. ER06-615 regarding the underscheduling penalty requirement filed on January 21, 2009.
- (6) Tariff amendment filing to allow ISO management to have discretion to assign responsibilities between its Folsom and Alhambra control centers under MRTU to be filed on or about February 13, 2009.

The ISO also notes that pursuant to a directive in the Commission's December 4, 2008 order,<sup>6</sup> the ISO will submit an informational filing of the MRTU Tariff sheets showing a March 31, 2009 effective date, to be filed prior to *go-live*. The ISO intends to make this filing on or about March 24, 2009.

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<sup>5</sup> *California Independent System Operator Corp.*, 124 FERC ¶ 61,271 (2008).

<sup>6</sup> *California Independent System Operator Corp.*, 125 FERC ¶ 61,262, at P 119 (2008).

**7. Attachments**

**7.1. Budget Status** – A high-level summary of expected completion costs.

**7.2. MRTU Readiness Criteria Dashboard**, dated January 30, 2009.

**Attachment 7.1**

**MRTU Budget Status**

California Independent System Operator  
Summary of Expected Completion Costs vs. Revised September 2008 Budget  
December 31, 2008  
(In Thousands) \*

Project	Revised Budget Sept. 2008 (a)**	Actual Costs Through 2007 (b)	Actual Costs Through 2008 (c)	Final Invoices still Due (d)	Cost of Project at Completion (e)=(c+d)	Increase (Decrease) from Budget (f)=(e-a)
<b>Market Redesign</b>						
	\$ 70,439	\$ 59,344	\$ 68,676	\$ 2,491	\$ 71,167	\$ 728
1	Automatic Mitigation Procedures/Phase 1A	773	773	773	-	773
2	Real Time Markets/Phase 1B	16,297	16,297	16,297	-	16,297
3	Integrated Forward Markets/Real -Time Market (IFM/RTM)	39,622	29,749	38,279	2,071	40,350
4	Congestion Revenue Rights (CRR)	4,855	4,681	4,855	-	4,855
4A	Market Quality System (MQS)	5,687	4,640	5,267	420	5,687
11A	Hardware & Software Purchases	3,205	3,205	3,205	-	3,205
<b>Technology Upgrade</b>						
	\$ 73,771	\$ 70,079	\$ 73,440	\$ 544	\$ 73,984	\$ 213
5	Scheduling Infrastructure Business Rules (SIBR)	11,745	10,860	11,407	338	11,745
6	Settlements and Market Clearing (SaMC)	20,545	18,995	20,608	206	20,814
6	Master File (MFRD)	2,528	2,528	2,528	-	2,528
9	Post Transactional Repository (PTR) - CMRI	2,563	2,563	2,563	-	2,563
10	Legacy Systems	7,303	7,179	7,228	-	7,228
10A	State Estimator/Full Network Model	1,170	1,170	1,170	-	1,170
11	Technology Infrastructure/ Portal	2,946	2,946	2,946	-	2,946
11B	Hardware & Software Purchases	7,881	6,748	7,900	-	7,900
12A	System Integration/Enterprise Architecture	16,018	16,018	16,018	-	16,018
12B	Technology Architecture	1,073	1,073	1,073	-	1,073
<b>Common Projects ***</b>						
	\$ 53,291	\$ 42,274	\$ 53,790	\$ 50	\$ 53,840	\$ 549
13	Training/Readiness Projects	10,391	9,318	10,369	-	10,369
14A	Project Management	17,390	15,045	17,323	-	17,323
14B	Testing/Market Simulation	25,510	17,912	26,098	50	26,148
<b>Contingency</b>						
	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ (1,490)
15	Program Contingency	2,000	-	-	-	510
<b>Total MRTU Project</b>						
	\$ 199,500	\$ 171,697	\$ 195,906	\$ 3,085	\$ 198,991	\$ 0

\* Columns and rows may not total due to rounding.

\*\* Project costs are comprised primarily of direct third party costs for: Consultant Labor, Vendor Costs, Travel & Meals Expenses, Training, Hardware, Software & Maintenance costs. Employee Labor, Backfill costs and Interest are excluded. Project costs do not equal capitalized cost for Fixed Assets pursuant to Generally Accepted Accounting Principles (GAAP).

\*\*\* Common Projects Allocation to Systems will be: 47.9% to Market Redesign; 52.1% to Technology Upgrade Projects

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**Attachment 7.2**

**MRTU Readiness Criteria Dashboard**

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# MRTU Readiness Criteria Dashboard

January 30, 2009

This Dashboard is designed to display the status of each MRTU Readiness Criteria. Readiness Criteria status is indicated by the following color codes:

- Clear: A Readiness Criterion is clear (C) if:
  - The Readiness Criterion has not begun.
- Purple: A Readiness Criterion is purple (P) if:
  - The completion or status updates are on schedule based on the specified target due date or milestone, OR
  - A mitigating action has been implemented successfully and the Readiness Criterion is back on schedule to be completed on the specified target due date.
- Orange: A Readiness Criterion is orange (O) if:
  - One or more Readiness Components in that Readiness Criterion are not complete on the specified target due date or milestone, OR
  - A Readiness Criteria has reported risks or issues that have a potential for not allowing it to be completed on the specified target due dates or milestones.
- Blue: A Readiness Criterion is blue (B) if:
  - All Readiness Components in that category are complete.

**Disclaimer:**

These readiness criteria will help the CAISO to determine the status of design elements and processes that must be in place to ensure implementation of MRTU Release 1 without undue risk to the CAISO or its Market Participants. The CAISO reserves the right to revise these criteria. The CAISO's certification of readiness to be filed with FERC 60-days prior to the proposed effective date of MRTU will be based on all information available to the CAISO including, but not limited to, status of readiness criteria, including mitigating actions, advice of Market Participants and the informed business judgment of CAISO senior management.

**Integrated Market Simulation**

**R1: 4/30/07 - 5/18/07; R2: 5/29/07 - 7/20/07;**

**R3: 9/24/07 - 11/09/07; U1: 11/13/07 -12/21/07;**

**U2: 02/19/08- 01/04/09 PPS: 03/01/09**

**January 30, 2009**

MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
BPM - 1	BPM	<p>CAISO will prepare Business Practice Manuals (BPMs), intended to contain implementation detail, consistent with and supported by the CAISO Tariff, including: instructions, rules, procedures, examples, and guidelines for the administration, operation, planning, and accounting requirements of CAISO and the markets.</p> <p>The CAISO Business Practice Manual (BPMs) will be completed and posted on the CAISO website to allow Market Participants the opportunity to review and comment on each BPM. CAISO will facilitate stakeholder review meetings to discuss critical issues. (This criterion is subject to change based on the output of the FERC Technical Conference.)</p> <p>CAISO will also establish and communicate to FERC and Market Participants a BPM change management process that describes the procedure that is used to update the BPMs after MRTU implementation.</p>		3/31/08			
		<p><b>BPM - 1.1</b> The "Initial Version Release" BPM requirements are complete.</p>		1/19/07			
		<p>1. The following "Initial Version Release" BPMs are prepared and published to the CAISO website incorporating stakeholder feedback and resolved critical issues, in preparation for Business Structure Market Simulation:</p> <ul style="list-style-type: none"> <li>- BPM for Compliance Monitoring</li> <li>- BPM for Congestion Revenue Rights</li> <li>- BPM for Definitions &amp; Acronyms</li> <li>- BPM for Market Instruments</li> <li>- BPM for Market Operations</li> <li>- BPM for Metering</li> <li>- BPM for Outage Management</li> <li>- BPM for Reliability Requirements</li> <li>- BPM for Rules of Conduct Administration</li> <li>- BPM for Scheduling Coordinator Certification and Termination</li> <li>- BPM for Settlements and Billing</li> <li>- BPM for Managing Full Network Model</li> </ul>		5/1/06 - 7/31/06		<p>The following BPMs were posted on 5/1/06: BPM for Definitions and Acronyms; BPM for Market Instruments; BPM for Market Operations; BPM for Settlements and Billing.</p> <p>The following BPMs were posted on 7/31/06: BPM for Compliance Monitoring; BPM for Congestion Revenue Rights; BPM for Definitions &amp; Acronyms; BPM for Market Instruments; BPM for Market Operations; BPM for Metering; BPM for Outage Management; BPM for Reliability Requirements; BPM for Rules of Conduct Administration; BPM for Scheduling Coordinator Certification and Termination; BPM for Settlements and Billing; BPM for Managing Full Network Model.</p>	
		<p>2. Stakeholders are provided with opportunity to review, provide comments, and identify critical issues for each BPM.</p>		7/31/06 - 8/29/06		<p>Stakeholders were allowed to submit their questions / comments to the BPM In-Box up to 2 weeks prior to each BPM meeting. Stakeholder questions on each BPM and CAISO responses can be found at: <a href="http://www.caiso.com/186a/186ae8622e6f0.html">http://www.caiso.com/186a/186ae8622e6f0.html</a></p>	
		<p>3. CAISO facilitates BPM review meetings for each BPM as appropriate to collect comments and discuss critical issues.</p>		8/29/06 - 10/5/06		<p>Seven organized BPM Stakeholder meetings occurred between 8/29/06 and 10/5/06. Details of each set of meetings that occurred, and which BPMs were covered can be found at: <a href="http://www.caiso.com/1872/1872e51451200.html">http://www.caiso.com/1872/1872e51451200.html</a></p>	

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		4. Revised Draft Version BPMs are posted to the CAISO website.	●	1/19/07		The following BPMs were posted on 1/19/07: BPM for Compliance Monitoring; BPM for Congestion Revenue Rights; BPM for Definitions & Acronyms; BPM for Market Instruments; BPM for Market Operations; BPM for Metering; BPM for Outage Management; BPM for Reliability Requirements; BPM for Rules of Conduct Administration; BPM for Scheduling Coordinator Certification and Termination; BPM for Settlements and Billing; BPM for Managing Full Network Model.	
		<b>BPM - 1.2</b> Subsequent BPM updates due to FERC requirements & Market Simulation are further developed.	B	8/3/07			
		1. Stakeholders are provided the opportunity to review, provide comments, and identify critical issues for each of the Market Simulation Release BPMs that were posted on January 19, 2007.	●	1/19/07 - 3/2/07		A market notice was sent out on January 12, 2007 providing details to Stakeholders on how to submit comments on the revised BPMs posted on 1/19/07.	
		2. CAISO hosts Compliance Process for Business Practice Manuals call.	●	2/7/07		Conference call was held from 2:00 PM to 3:00 PM on 2/7/07.	
		3. CAISO drafts MRTU Tariff Language and posts to CAISO website along with reconciled BPMs.	●	4/2/07		All BPM revisions were posted by 6/7/07.	
		4. CAISO allows stakeholders to review and comment on BPM updates.	●	12/3/07		Individual BPM status can be found under the heading "BPM Completion Status Reports" at: <a href="http://www.caiso.com/17ba/17baa8bc1ce20.html">http://www.caiso.com/17ba/17baa8bc1ce20.html</a>  BPMs have all been updated based on comments provided by stakeholders. As BPM modifications continue to occur, Stakeholders will have the opportunity to review and comment.	
		5. CAISO holds a conference call or meeting with Stakeholders on proposed MRTU Tariff Language.	●	4/17/07		BPM Tariff Language call was held from 1:00 PM - 4:00 PM on 4/17/07.	
		6. CAISO files additional proposed MRTU Tariff language to support BPMs and posts revised BPMs to CAISO website.	●	8/3/07		BPM Tariff Language was filed with FERC	
		7. The FERC Technical Conference held.	●	Fall 2007	Technical Conference held 9/26 - 9/27 in Washington D.C.		

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		8. The CAISO complies with all FERC Technical Conference directives. - Post all revised BPMs as a result of the FERC Technical Conference - File proposed Tariff Language.	●	11/15/07		The CAISO has posted all revised BPMs onto the CAISO website as of Nov 15th and has filed proposed Tariff Language. The following is a list of the BPMs that were revised and posted: Change Management, Compliance Monitoring, Congestion Revenue Rights, Credit Management, Definitions and Acronyms, Managing Full Network Model, Market Instruments, Market Operations, Metering, Outage Management, Reliability Requirements, Scheduling Coordinator Certification & Termination, Settlements and Billing.	
		<b>BPM - 1.3</b> <b>CAISO BPMs are sufficiently complete for the MRTU Implementation.</b>  *** Please note that BPMs marked "complete" are considered to be essentially complete; however, are subject to the outcome of the BPM Technical Conference, and any revisions required as a result of Testing or Market Simulation.	B	3/31/08		Further details on each BPM can be found under "BPM Completion Status Report" at: <a href="http://www.caiso.com/17ba/17baa8bc1ce20.html">http://www.caiso.com/17ba/17baa8bc1ce20.html</a>	
		BPM for Candidate CRR Holder Registration	●			Complete	
		BPM for Congestion Revenue Rights	●			Complete, revised version posted Nov 15th	
		BPM for Compliance Monitoring	●			Complete, revised version posted Nov 15th	
		BPM for Change Management	●			Complete; See Readiness Criterion BPM 1.4 for status	
		BPM for Credit Management	●			Complete, revised version posted on September 12th	
		BPM for Definitions and Acronyms	●			Complete, revised BPM posted on September 21	
		BPM for Managing the Full Network Model	●			Complete, revised version posted on Nov 15th	
		BPM for Market Instruments	●			Complete, revised version posted on Nov 15th	
		BPM for Market Operations	●			Complete, revised version posted Nov 15th	
		BPM for Metering	●			Complete, revised version posted Nov 15th	
		BPM for Outage Management	●			Complete, revised version posted on Nov 15th	
		BPM for Reliability Requirements	●			Complete, revised version posted Nov 15th	
		BPM for Rules of Conduct Administration	●			Complete	
		BPM for Scheduling Coordinator Certification and Termination	●			Complete, revised version posted Aug 20th	

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		BPM for Settlements and Billing	●			Complete, Attachment E posted on Nov 12th. * Going forward, updates and changes to this BPM will be tracked on Criterion STL 1.1.1.	
		<b>BPM - 1.4</b> CAISO establishes the BPM Change Management Process; communicates the process to stakeholders; and files the BPM Change Management Process with FERC. The process establishes the procedure that is used to update the BPMs after market launch.	B	8/3/07		- Revised BPM for Change Management Process was posted on June 26. - Information on the Change Management Process can be found at: <a href="http://caiso.com/17ba/17baa8bc1ce20.html">http://caiso.com/17ba/17baa8bc1ce20.html</a> - FERC Filing over Change Management Process occurred on August 3rd. - Process will go into effect at Go Live.  All updates to the BPM Change Management Process as a result of the FERC Technical Conference on Sept 27th have been posted onto the CAISO website as of Nov 15th.	
<b>CRR-1</b>	<b>CRR</b>	CAISO will conduct a market simulation phase, called the Congestion Revenue Right (CRR) Dry Run, to provide market participants and CAISO with the opportunity to step through the process of allocating and auctioning CRRs in a manner that will be similar to the process that will be used to support MRTU implementation.		3/30/07	B		
		<b>CRR - 1.1</b> CRR Participants meet the eligibility requirements to participate in the CRR Dry Run.	B	8/30/06			
		1. Participants complete CRR training.	●	6/29/06			
		2. Participants receive security digital certificates.	●	8/30/06			
		<b>CRR - 1.2</b> CRR Participants provide CAISO with valid, annual CRR nominations for the CRR Dry Run.	B	8/30/06			
		<b>CRR - 1.3</b> CAISO completes the annual and monthly CRR allocations for the CRR Dry Run.	B	2/15/07			
		1. New CRR Participants meet eligibility requirements.	●	9/30/06			
		2. CRR Participants submit CRR nominations to CAISO.	●	10/15/06			
		3. CAISO runs the CRR allocation markets and publishes results.	●	2/15/07		Annual results of the allocation market were published during 12/06. Monthly results from the allocation market were published on 1/16/07. This Criterion finished early.	
		<b>CRR - 1.4</b> CAISO completes the annual and monthly CRR auctions for the CRR Dry Run.	B	2/15/07			
		1. New CRR Participants meet eligibility requirements.	●	9/30/06			
		2. CRR Participants submit CRR bids to CASIO.	●	10/15/06			
		3. CAISO runs CRR auction markets and publishes results.	●	2/15/07		Monthly results of the auction market were published on 1/16/07. Annual results of the auction were published on 1/26/07. This Criterion finished early.	

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		CRR - 1.5 CAISO collects the results of the CRR Dry Run, prepares an informational report, and submits it to FERC.	B	3/30/07		Informational Report over Dry Run can be found at: <a href="http://www.caiso.com/1bb4/1bb4f3562b4c0.pdf">http://www.caiso.com/1bb4/1bb4f3562b4c0.pdf</a>	
CRR - 2	CRR	CAISO will complete the integration testing of the CRR output services. The test results will pass the Quality Review Board review.		9/1/08	B	- All CRR Broadcast Services were successfully triggered to an SOA (Service Oriented Architecture) Bus. - CRR Release 1 successfully passed Quality Review Board FAT and SAT Test review.  <b>August 2008 Update:</b> Testing for CRR broadcast services to OASIS is complete with 1 outstanding postponed defect regarding GMT timestamp. There is a workaround in place and the GMT timestamp code will be postponed until after the CRR Production Auction market in Nov 2008 Testing CRR broadcast services with SAMC is complete except for CC6798 which should be completed by September.  <b>September 2008 Update:</b> Integration test of all CRR Broadcast services with SAMC are complete.	
CRR - 3	CRR	CAISO will complete the first annual process for allocation of 1-Year CRRs and LT CRRs and for auction of 1-Year CRRs, and first monthly allocation and auction of monthly CRRs.		TBD	P		
		CRR - 3.1 CRR participants meet the eligibility requirements to participate in the CRR production market.	B	10/1/07			
		1. CRR Participants receive security digital certificates if not already received from CRR Dry Run.	●	6/29/07		All certificates requested by the Participants have been received for allocation.	
		2. CRR System is populated with collateral data from the financial group.	●	12/1/07		The CRR System was populated with collateral data from the financial group on 12/6/07.	
		CRR - 3.2 The first production run of 1) the annual process for allocation of 1-Year CRRs and LT CRRs, and for auction of 1-Year CRRs; and 2) first monthly allocation and auction of monthly CRRs are complete.	P	1/27/09			
		1. Completion of Annual and Long Term Allocation Process	●	12/3/07		- Tier 1 market: 9/4 - 9/14 - complete - Tier 2 market: 10/5 - 10/9 -complete - Tier LT market: 10/29 - 10/31 - complete - Tier 3 market: 11/21 - 11/27 - complete	
		2. Completion of Annual Auction Process	●	12/18/07		- Annual Auction: 12/11 - 12/13  The Annual Auction Process completed on 12/20/07.	
		3. Start of Monthly Allocation Process	○	Exit PPS			

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		3.1 Complete and post Monthly Allocation results	○	Exit PPS			
		4. Start of Monthly Auction Process	○	Exit PPS			
		4.1 Complete and post Monthly Auction results	○	Exit PPS			
CRR - 4	CRR	CAISO will make its compliance filing with the FERC's Long-Term Transmission Rights (LT FTR) Final Rule.		1/29/07	B	Filing can be viewed at: <a href="http://www.caiso.com/1845/1845dca750770.html">http://www.caiso.com/1845/1845dca750770.html</a> under the name: "CAISO Filing to FERC on Long Term Transmission Rights - 29-Jan-2007"	
ENT - 1	Enterprise Systems	CAISO will verify that its enterprise systems meet availability requirements. This will be demonstrated by establishing Service Level Agreements (SLAs) for IT support, development, and implementation of monitoring tools and achieving availability requirements during the Pre-Production Simulation (PPS).		Exit PPS	P		
		ENT - 1.1 Service Level Agreement (SLA) documents are created and signed off by the MRTU IT Director.	B	Entry PPS		January 2009 Update SLAs completed and approved.	
		ENT - 1.2 Monitoring tools are built into each enterprise system and are used to produce performance and availability reports during PPS market simulation.	B	Entry PPS		December 2008 Update CAISO has developed and implemented monitoring tools for all enterprise systems in NFP. These tools were used in IMS U2 and will continue to be used through parallel operations and PPS.	
		ENT - 1.3 Each enterprise system meets its minimum availability requirement during the PPS market simulation.	P	Exit PPS		- Minimum PPS availability cannot be confirmed until PPS phase.	
ECA - 1	External Control Area	CAISO, market participants, and external control areas agree on the new interchange and e-tagging procedures, being developed as part of the Scheduling and Tagging Next Generation (STING) project, including the new Control Area Scheduler (CAS).		1/23/07	B		
		ECA - 1.1 100% of tags applicable to CAISO are linked by market reservation to Control Area Scheduler (CAS).	B	1/23/07		100% of the tags applicable to CAISO from the Participants are being linked through market reservation to CAS.	
		ECA - 1.2 Control Area Scheduler (CAS) is fully operational and in production.	B	1/23/07		Control Area Scheduler officially went live on Tuesday, 2/13/07 at 10:00pm.	
GO - 1	Grid Ops	CAISO grid operating procedures will be created or updated to reflect MRTU implementation. The new and revised grid operating procedures will be reviewed with market participants and external control areas.		1 Day Prior to Go-Live	B		

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		<p><b>GO - 1.1</b> CAISO Grid Operating Procedures and Emergency Procedures are reviewed. New procedures are created or existing procedures are revised for training purposes to reflect MRTU implementation.</p>	B	5/1/08	P	<p>Of 352 Operating Procedures:                      - 83 Operations Procedures have been identified as needing revisions for MRTU.                      - 47 minor Operating Procedures                      - 32 significant Operating Procedures will be created or withdrawn.                      - 4 major Operating Procedures critical for Operations Training.</p> <p>All Operating Procedures are complete:                      - 4 out of 4 Major Operating Procedures completed.                      - 32 out of 32 Significant Operating Procedures completed.                      - 47 out of 47 Minor Operating Procedures completed.</p>	
		<p><b>GO - 1.2</b> CAISO Grid Operating Procedures and Emergency Procedures are provided to Market Participants and External Control Areas.</p>	B	5/1/08		<p>The following are the 4 major operating procedures:                      - M-401 Day Ahead Market                      - M-402 Exceptional Dispatch                      - M-403 Real Time Market                      - S-326 Southern Cities</p> <p>April Update:                      All Major Operating Procedures are complete:                      M-401 Day-Ahead Market                      M-402 Exceptional Dispatch                      M-403 Real-Time Market</p>	
		<p><b>GO - 1.3</b> The revised CAISO Grid Operating Procedures and Emergency Procedures are posted on the CAISO website.</p>	B	1 Day Prior to Go-Live		<p><b>January 2009 Update</b>                      All procedures have been reviewed, revised and updated.</p>	
INF-1	Infrastructure	CAISO will meet the MRTU system architecture requirements, including information monitoring processes and tools and availability and stability standards during market simulations.		Exit PPS			
		<p><b>INF - 1.1</b> Infrastructure monitoring tools produce logs of system performance and availability during market simulations.</p> <p>1. Weekly up-time reports reflect that system infrastructure is available for at least the time required during each market simulation.</p>	B	Exit PPS	P		
			●	Exit PPS		<p><b>December 2008 Update:</b>                      ISO Monitor and reporting is active on New Production environment and will continue through Go-Live.</p>	

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		INF - 1.2 Production environment is available and stable for 7 consecutive days (24 hours a day), excluding approved outages (emergency only), during the market simulations.	B	Exit PPS		January 2009 Update The production environment has been in place and is being continuously monitored. The environment has been available 24/7 (excluding approved outages).	
		INF - 1.3 Archive capability is planned, tested, and accomplished in the MRTU infrastructure.	B	Exit PPS		January 2009 Update Archive capability is in place for the MRTU infrastructure.	
		INF - 1.4 Backup/Recovery and Failover/Fallback of MRTU infrastructure is planned, tested, and accomplished.	P	Exit PPS		January 2009 Update Testing has been planned and is being implemented.	
		1. Backup/Recovery of MRTU infrastructure is planned, tested and accomplished.	P	Exit PPS			
		2. Failover/Fallback of MRTU infrastructure is planned, tested and accomplished.	P	Exit PPS			
		INF- 1.5 The final production environment is configured for Go-Live.	P	Exit PPS		The Production environment is available to support Market Simulations. Reconfiguration may occur at the termination of the final Market Simulation in preparation for PPS.	
		INF- 1.6 Release management processes (framework/structure) are in place prior to PPS market simulation around any changes to the code or production environment.	B	Entry PPS		October 2008: Release management process is in place.	
LMP-Testing-1	LMP Testing	CAISO will perform Location Marginal Pricing (LMP) testing. The purpose of LMP testing will be to ensure that the LMP and Ancillary Service Marginal Pricing (ASMP) calculations are accurate using data and results compiled from market simulation activities, analysts track testing, and, to the extent possible, LMP Study 4.		Entry PPS	B		
		LMP Testing - 1.1 LMP and ASMP Validation in Controlled Test Environment	B	7/31/08		LMP Testing 1.1.1 -1.1.3 combined comments	
		1. LMP for a generating resource, participating load, system resource, and non-participating demand are appropriately (i) equal to, (ii) above, or (iii) below the resources bid, depending on whether the resource schedule is constrained by specific conditions.	P	7/31/08		October 2008 Update: Testing of LMP and ASMP validation in the controlled test environment is complete. The final LECG report can be found on the following link: <a href="http://caiso.com/2067/2067ea8e50950.pdf">http://caiso.com/2067/2067ea8e50950.pdf</a>	
		2. ASMP for a generating resource, participating load, and system resources are appropriately (i) equal to, (ii) above, or (iii) below the resources Ancillary Service (AS) bid, depending on whether the resource AS schedule is constrained by specific conditions.	P	7/31/08			
		3. Regional Ancillary Service Shadow Prices (RASSPs) are calculated correctly such that: Reg Up Price >= Spin Price >= N-Spin Price, and RASSPs are calculated correctly with AS Cascading activated.	P	7/31/08			
		LMP Testing - 1.2 LMP and ASMP Validation under Market Simulation Environment	B	Entry PPS		LMP Testing 1.2.1 -1.2.2 combined comments	

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		2. ASMP for a generating resource, participating load, and system resources are appropriately (i) equal to, (ii) above, or (iii) below the resources AS bid, depending on whether the resource AS schedule is constrained by specific conditions.	●	Entry PPS		<p><b>Remaining Steps</b> While the readiness criteria stated herein is accomplished, CAISO continues to expand and enhance this process to include more automated validation analyses of real timemarkets, and increase the efficiency with which market results are evaluated</p>	
LMP-PRD - 1	LMP Production	CAISO will develop and implement the Locational Marginal Pricing (LMP) validation tools, processes, and procedures necessary to support MRTU implementation.		11/1/08	●		

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		LMP Production - 1.1 The LMP tool is operational and 100% of processes and procedures are completed.	B	11/1/08		<p><b>August 2008 Update:</b> Work continues on the SAS code, with frequent updates from LECC. IT and Market Ops have completed performance tests of the tool in the production environment and are analyzing the results. Work continues on the output viewer, and SAS consultants have been given requirements for the Kick Off controller.</p> <p><b>October 2008 Update:</b> Significant progress has been made with the remaining work focused on the output viewer. It is anticipated that the tool will be completed by early November.</p> <p><b>November 7, 2008 Update:</b> Work on the output viewer has been accomplished and the LMP Tool is now complete.</p>	
MKS - 1	Market Services	CAISO will prepare an assessment of the MRTU market systems' effectiveness when responding to instances where the demand bids exceed the supply bids and post on the CAISO website.		Exit Update 2	B	<p><b>October 2008 Update:</b> This Readiness Criterion is reflected in Scenario 10 of the IMS Scenario Executions. This scenario ran for trade date 9/20/08 and the preliminary results are available for Market Participant review. <a href="http://www.caiso.com/204e/204e785f5d300.pdf">http://www.caiso.com/204e/204e785f5d300.pdf</a>.</p> <p><b>November 7, 2008 Update:</b> Based on the observed market results, the objective of this shortage of supply scenario was achieved. The Final Report is posted on the CAISO website on the following link: <a href="http://www.caiso.com/2076/2076dd7b34a0.pdf">http://www.caiso.com/2076/2076dd7b34a0.pdf</a>.</p>	

Integrated Market Simulation

R1: 4/30/07 - 5/18/07; R2: 5/29/07 - 7/20/07;  
R3: 9/24/07 - 11/09/07; U1: 11/13/07 -12/21/07;  
U2: 02/19/08- 01/04/09; PPS: 03/01/09

MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
MKS - 2	Market Services	CAISO will develop post implementation evaluation criteria, including MRTU performance and operational issues, collaboratively with stakeholders for inclusion in CAISO's post-implementation performance reports.		7/31/08	<b>B</b>	<p>Two Stakeholder meetings have been held to identify the type criteria that would be included on post implementation reports.</p> <p>The CAISO has developed a set of MRTU Market Performance Metrics to be used in the Post Implementation evaluation report. These metrics can be found on the CAISO website on the following link: <a href="http://www.caiso.com/179d/179ddbce22760.html">http://www.caiso.com/179d/179ddbce22760.html</a>. The CAISO is working on compiling the list of post-evaluation criteria and will post it onto the CAISO website.</p> <p><b>July 2008 Update:</b> The CAISO is in the final stages of finalizing the list of reporting metrics for the Post Implementation quarterly report..</p> <p>Note: The target date was changed to reflect additional items to complete in the reporting metrics.</p> <p><b>September 2008 Update:</b> The CAISO has established post implementation reporting metrics to be filed on a quarterly basis 30 days after the</p>	
MS - 1	Market Systems	CAISO will create support, monitoring, and availability requirements for the MRTU market systems, including the establishment of Build Documents, Run Books and application monitoring tools.		Exit PPS	<b>P</b>		
		MS - 1.1 Build Documents and Run Books are created and signed off.	<b>B</b>	Entry PPS		<b>January 2009 Update</b> Build documents and Run books have been created and approved.	
		MS - 1.2 Monitoring tools are integrated and functioning in each Market System and are used to produce performance and availability logs during the Pre-Production Simulation (PPS) market simulation phase.	<b>B</b>	Entry PPS		Application monitoring in progress	
		1. The monitoring tool is integrated with the Settlement and Market Clearing (SaMC) system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		2. The monitoring tool is integrated with the Client Management Repository (CMRI) system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		3. The monitoring tool is integrated with the Scheduling Infrastructure Business Rules (SIBR) system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		4. The monitoring tool is integrated with the Integrated Forward Market (IFM) system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		5. The monitoring tool is integrated with the Real-Time Market (RTM) system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		6. The monitoring tool is integrated with the Portal system.	<b>B</b>	Entry PPS		Application monitoring in place.	
		7. The monitoring tool is integrated with the Market Quality System (MQS) system.	<b>B</b>	Entry PPS	Application monitoring in place.		

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MRTU Readiness Criteria Dashboard

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		<b>MS - 1.3</b> Each Market System has met its minimum availability requirement during the PPS market simulation phase.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		1. The SaMC system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		2. The CMRI system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		3. The SIBR system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		4. The IFM system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		5. The RTM system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		6. The Portal system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
		7. The MQS system meets minimum availability requirement.		Exit PPS		Hardware and monitoring tools deployed to measure availability during PPS.	
<b>MM - Study - 1</b>	<b>Market Monitor Study</b>	<b>CAISO will complete the Final Competitive Path Assessment (CPA) after thorough review and input from stakeholders; allowing the resulting path designations to be posted to the CAISO website.</b>		<b>30 days prior to Market Launch</b>		<p>The first set of preliminary results were published on the CAISO website under the heading "MRTU Competitive Path Assessment White Paper": A second set of preliminary CPA results was published on 10/1/07. Both reports and all other CPA information can be found at: <a href="http://www.caiso.com/docs/2005/07/01/200507011120583480.html">http://www.caiso.com/docs/2005/07/01/200507011120583480.html</a>.</p> <p>Third set of preliminary CPA results were published on 12/19/07 under the heading: CPA for MRTU Release 3 of Preliminary Results. This report can be found at: <a href="http://www.caiso.com/docs/2005/07/01/200507011120583480.html">http://www.caiso.com/docs/2005/07/01/200507011120583480.html</a>.</p> <p><b>December 2008 Update:</b> The Final CPA report is being developed and will be published not less than 30 days prior to go-live.</p>	

**Integrated Market Simulation**

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
MM - Study - 2	Market Monitor Study	The issue raised by LECG about a potential deficiency in the preferred Local Market Power Mitigation (Direct Mitigation) will be evaluated and will be determined not to be a significant concern.		12/31/06		There is no indication that the LECG concern was valid for the LMPM approach that we are taking, and therefore, is not a significant concern. Report on LMPM deficiency can be found at: <a href="http://www.caiso.com/docs/2004/10/01/2004100110503422982.html">http://www.caiso.com/docs/2004/10/01/2004100110503422982.html</a>	
SIM - 1	Market Simulation	In advance of each of the market simulations, CAISO, with input from stakeholders, will establish entry and exit criteria. The entry and exit criteria will be posted on the CAISO website. The entry and exit criteria from each Market Simulation will be met.		Exit PPS			
		<b>SIM - 1.1</b> The Rules Validation / Connectivity Simulation (RV/CS) phase entry and exit criteria are met.		Exit RV/CS		RV/CS Scorecard can be found at: <a href="http://www.caiso.com/18d2/18d2926739ba0.pdf">http://www.caiso.com/18d2/18d2926739ba0.pdf</a>	
		<b>SIM - 1.2</b> The Enhanced Rules and Connectivity Inter – SC Trade (ERC-IST) simulation phase entry and exit criteria are met.		Exit ERC-IST		ERC/IST Scorecard can be found at: <a href="http://www.caiso.com/1bbe/1bbcd8903a0f0.pdf">http://www.caiso.com/1bbe/1bbcd8903a0f0.pdf</a>	
		<b>SIM - 1.3</b> The Integrated Market Simulation (IMS) entry and exit Criteria are met.		Exit R2			
		<b>SIM 1.3.1 Release 1</b> The Integrated Market Simulation (IMS) Release 1 (R1) entry and exit criteria are met.		Exit R1		R1 successfully exited on 5/18/07. R1 entry and exit criteria can be found in the "Market Simulation Criteria Tracker" at: <a href="http://www.caiso.com/186a/186acdf53cdf0.html">http://www.caiso.com/186a/186acdf53cdf0.html</a> The R1 Scorecards can be found at: <a href="http://www.caiso.com/1bb6/1bb674bb18c90.html">http://www.caiso.com/1bb6/1bb674bb18c90.html</a>	
		<b>SIM 1.3.2 Release 2</b> The Integrated Market Simulation (IMS) Release 2 (R2) entry and exit criteria are met.		Exit R2		R2 concluded on 7/20/07. R2 entry and exit criteria can be found in the "Market Simulation Criteria Tracker" at: <a href="http://www.caiso.com/186a/186acdf53cdf0.html">http://www.caiso.com/186a/186acdf53cdf0.html</a> R2 Weekly Report Cards can be found at: <a href="http://www.caiso.com/1bb8/1bb8c03d28380.html">http://www.caiso.com/1bb8/1bb8c03d28380.html</a>	
		<b>Sim 1.4 Release 3</b> IMS Release 3 Entry and Exit Criteria as identified in the Market Simulation Guide Book are complete with the exit of IMS Update 2.		Exit Update 2			
		<b>SIM 1.4.1 Release 3</b> Integrated Market Simulation Release 3 begins.		Exit R3		- IMS Release began on 9/24/07. - IMS R3 URL Document, Charge Code, and other information can be found at: <a href="http://www.caiso.com/1bd7/1bd7ebbc72fc0.html">http://www.caiso.com/1bd7/1bd7ebbc72fc0.html</a>  IMS Release 3 concluded on 11/9/07.	

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MRTU Readiness Criteria Dashboard

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		SIM 1.4.2 Update 1 Integrated Market Simulation Update 1 begins.	B	Exit Update 1		IMS Update 1 began on 11/13/07. -IMS Update 1 URL Document, Charge Code, and other information can be found at: <a href="http://caiso.com/1c2d/1c2d9ced4aa60.html">http://caiso.com/1c2d/1c2d9ced4aa60.html</a>	
		SIM 1.4.3 Update 2 Integrated Market Simulation Update 2 begins and concludes with all Exit criteria as identified in the Market Simulation Guide Book complete.	B	Exit Update 2		IMS Update 2 began on 02/19/08. -IMS Update 2 URL Document, Charge Code and other information can be found at : <a href="http://caiso.com/1c96/1c96acdd1d710.html">http://caiso.com/1c96/1c96acdd1d710.html</a>	
		Sim - 1.5 The Pre-Production Simulation (PPS) entry and exit criteria are met.	C	Exit PPS		<b>December 2008 Update:</b> IMS U2 concluded. Discussion of the completion of IMS U2 can be found in the	
MOD-1	Model	CAISO will complete all updates to the Full Network Model. (FNM)		10/31/08	B		
		MOD - 1.1 FNM updates are completed (except for simultaneous promotion of Markets and EMS to production) utilizing integrated databases or approved workarounds.	B	6/30/07		<b>October Update:</b> The FNM has been updated in the FIT environment and is scheduled to be included in the next phase of Market Simulation. All future model updates are planned to be promoted into the MRTU Market Simulation.	
		MOD - 1.2 FNM updates are completed (including simultaneous promotion of Markets and EMS to production) utilizing integrated databases or approved workarounds.	B	10/31/08		<b>December 2008 Update:</b> Full integration of the FNM model DB38 was successfully completed with no process issues.	
ORG - 1	Organizational Readiness	CAISO's organizational readiness tasks will be completed and the Core Business Units affirm their successful completion. Readiness tasks may include the following elements, as applicable: 1. Organizational Impact Assessment 2. Job Analysis and Design 3. Organizational Analysis and Design 4. Communication Plan 5. Knowledge Transfer Plan 6. Revised Job Descriptions 7. Revised Contingency Plan 8. Tools, Processes, and Procedures 9. Training		60 Days Prior to Market Launch	B	<b>January 2009 Update:</b> Core Business Units have completed their readiness tasks as identified in the criterion's elements.	

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
ORG - 2	Organizational Readiness	CAISO's organizational readiness tasks will be completed and the Non-Core Business Units affirm their successful completion. Readiness tasks may include the following elements, as applicable: 1. Organizational Impact Assessment 2. Job Analysis and Design 3. Organizational Analysis and Design 4. Communication Plan 5. Knowledge Transfer Plan 6. Revised Job Descriptions 7. Revised Contingency Plan 8. Tools, Processes, and Procedures 9. Training		60 Days Prior to Market Launch	B	January 2009 Update: All MRTU tasks for Non-Core Business Units are completed, the final needed activity for the BU has been completed.	
ORG - 3	Organizational Readiness	CAISO will establish the tools and environments required to support the market monitoring, enforcement, and compliance functions.		60 Days Prior to Market Launch	P		
		ORG - 3.1 All data identified by the Department of Market Monitoring (DMM) Unit as critical for market monitoring will be stored in an organized relational database, thoroughly documented, and will be made available to the Department of Market Monitoring Unit.	P	60 Days Prior to Go-Live		<ul style="list-style-type: none"> <li>Enterprise Data Repository (EDR): Project is near completion for critical (to DMM) six market applications, and further enhancements have been made by EDR Team. Issues still exist with representation of Master File data, DEB input data, and expanded transmission data. None of these are critical matters for go-live.</li> <li>Initial draft of Data Dictionary is available, but documentation is dated and incomplete, making this source of information of limited use. Need updates from vendors and assignment of data dictionary custodianship (definitions and data dictionary application) to individuals / business unit before Go-Live.</li> </ul> <p>Most data availability issues have been either resolved or are being addressed through change requests and work-around. DMM is actively working with EDR and MRTU PMO to get remaining issues resolved prior to go live. At this time it does not appear that there are any</p>	

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### MRTU Readiness Criteria Dashboard

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		<p><b>ORG - 3.2</b>                      A core set of monitoring tools (software, indices, and reports) will be completed and functional.</p>		60 Days Prior to Go-Live		<p><b>December 2008 Update:</b>                      Over the next several months DMM will continue refining its core metrics and developing additional metrics to enhance its monitoring capabilities.</p>	
		<p><b>ORG - 3.3</b>                      A Market simulation tool (the MRTU Sandbox / DMM Tool) that is based on the actual CAISO market software will be developed and tested by the CAISO MRTU Team and made available to the Department of Market Monitoring (DMM) Unit three months prior to Go Live.</p>		90 Days Prior to Go-Live		<p><b>January 2009 Update:</b></p> <ul style="list-style-type: none"> <li>• DMM Sandbox is on site and is being used by DMM.</li> <li>• Reliability issues are being addressed, along with software versioning and save-case access.</li> <li>• DMM is working closely with IT and MRTU PMO on issue resolution. Continued focus and resources will be devoted to assure the DMM tools are working properly and are adequate for go live. Weekly status is being reported and reviewed by CAISO Management on progress and resolution of items.</li> </ul>	

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
PRT - 1	Participant Readiness	CAISO will monitor the "readiness" of the market participants through a series of MRTU Readiness Assessments to assist in ensuring that at least 80% of the active CAISO market participants including those that meet significant CAISO demand requirements are "Ready" prior to market launch. The assessment criteria will include people, process, and technology areas of readiness.		30 Days Prior to Market Launch		December 2008 Update: The CAISO is working closely with Market Participants with their readiness plans. Progress in settlement validation is occurring and parallel operations will provide additional opportunities to ready Market Participants' staff.	
		PRT - 1.1 80% of the market participants including those that meet significant CAISO demand requirements complete the Initial Baseline Assessment.		1/31/07		81% of Market Participants including those that meet significant CAISO demand completed their assessments.	
		PRT - 1.2 80% of the market participants including those that meet significant CAISO demand requirements complete the First Follow-Up Assessment.		7/31/07		100% of Market Participants completed their assessments.	
		PRT - 1.3 80% of the market participants including those that meet significant CAISO demand requirements achieve a "READY" score on Final Assessment.		30 Days Prior to Market Launch		<b>January 2009 Update</b> The Final Assessments have been distributed to the SCs and are due back in February 2009.	
PRT - 2	Participant Readiness	CAISO will monitor and record overall issues during each Release (and update) of Integrated Market Simulation (IMS), resolve any issues that hinder meeting the pre-defined release objectives and all for Market Participant testing time.		Exit R3 Update 2			
		PRT - 2.1 Release 2 - Resolution of all high priority issues that hinder the pre-defined release objectives and allow for Market Participant testing time.		Exit R2		- Settlement files to-date have not met Market Participant expectations and requirements for testing. - All R2 in-scope activities are not yet available. - R2 Simulation concluded without simulation success from a product testing and business process point of view. - There were two High+ issues that prevented participants from meeting the objectives for Release 2. There were also two High+ issues with Market Test status. IMS R2 was concluded. The Market Simulation team and the PMO are currently discussing steps to resolve the open issues.	

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Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
		<p><b>PRT - 2.2</b>                      Release 3 (includes Updates 1 &amp; 2) - Resolution of Critical and Very High priority issues that hinder the pre-defined release 3 objectives and allow for Market Participant testing time.</p>	B	Exit Update 2		<p>All Critical and Very High issues are being resolved as they arise.</p> <p>A weekly Status and Issue report is posted on the CAISO website at : <a href="http://www.caiso.com/1bd7/1bd7ebbc72fc0.html#1c6011d9c6cd70">http://www.caiso.com/1bd7/1bd7ebbc72fc0.html#1c6011d9c6cd70</a>.</p> <p><b>December 2008 update:</b>                      All issues that prevented Market Participants from participating in Market Simulation were address immediately. Based on the weekly participation report cards, a very high percentage of Scheduling Coordinators were actively testing in Market Simulation, therefore, no issue hindered participation in IMS U2.</p>	
REG - 1	Regulatory	CAISO's MRTU regulatory requirements will be completed, including tariff updates and filings.		60 - 90 days prior to go-live	B		
		<p><b>REG - 1.1</b>                      CAISO completes tariff updates and other necessary filings such as additional non- substantive compliance or 205 filings (e.g. clean ups, deferred maintenance, merger of S&amp;R tariff amendments into MRTU (e.g. Credit policy)) and files them with FERC.</p>	B	60 - 90 days prior to go-live		<p><b>January 2009 Update:</b>                      As of January 16th all known non-substantive filings have been made.</p>	
		<p><b>REG - 1.2</b>                      BPM updates are consistent with MRTU tariff and applicable FERC orders.</p>	B	60 - 90 days prior to go-live		<p>Revised BPMs were posted on November 15 consistent with FERC orders and MRTU Tariff on file. Additional proposed tariff language were also filed on November 15. The CAISO has satisfied BPM-related FERC directives.</p>	
		<p><b>REG - 1.3</b>                      All substantive compliance filings and substantive 205 filings are filed with FERC.</p>	B	180 Days Prior to Market Launch		<p>On 8/3/07, all compliance items that required filing no later than 180 days prior to Go Live from the 9/21, 4/20, and 6/25 FERC Orders, were submitted to FERC.</p> <p>-The initial scope of this criterion was satisfied on 8/3/07. An extension on two filings (LAP Clearing, and RA Backstop) in scope for this criterion will be tracked on criterion REG - 1.1.</p>	

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
SE - 1	State Estimator	The purpose of the State Estimator (SE) criteria is to provide a measurement to evaluate the stability of the SE system and solution for MRTU. This category will monitor the State Estimator performance, voltage accuracy, and difference from telemetered flows on tie lines and branches that are within a predefined criteria: 1. SE solution must be achieved for 97% of five minute periods within a 30 day period. 2. SE voltage must be within 2% of metered voltage on 50 critical buses. 3. SE MW flow must be within 50MW or 5% of telemetered flow on 10 tie lines to outside CAISO. 4. SE flows on transmission lines and transformers must be within 10% of telemetered flows on all other branches within the CAISO footprint.		6/1/07	B		
		SE - 1.1 Real-Time Performance Criteria – For thirty (30) consecutive days a Valid State Estimator solution is achieved for ninety-seven percent (97%) of the five (5) minute periods within that thirty (30) day period. There are no more than three (3) consecutive five (5) minute periods without a valid solution (except when there is a planned system software migration as required by the Energy Markets project or when ICCP data is unavailable due to remote CA ICCP node errors). Valid solution are defined as one converged solution in a 5 minutes period using converge tolerance of 10 MW/ MVar and maximum 'Zero-Injection' bus mismatch of 25 MW/MVar inside the State Estimator solution within the California ISO Market footprint.	B	6/1/07		Criteria is complete	
		SE - 1.2 On fifty (50) buses where voltage is deemed critical, the solved State Estimator voltage is within two percent (2.0%) +/- accuracy of the metered voltage, provided that the metered voltage is measured to within the notified accuracy. The fifty (50) critical buses are defined by the California ISO with Transmission Owner input and include at least one bus in each control area that is inside the observable California ISO market footprint. All buses (elements) are inside the observable California ISO Market model.	B	6/1/07		Criteria is complete	
		SE - 1.3 On ten (10) tie lines to outside of the California ISO System, the absolute difference between the telemetered flow and the State Estimator MW flow is within fifty (50) MW or five percent (5%) for lines 100kv and above, of the base rating. The ten (10) tie lines are defined by California ISO, with Stakeholder input. All tie lines (elements) are inside the observable California ISO Market model.	B	6/1/07		Criteria is complete	
		SE - 1.4 On all other branches (>100kv) within the California ISO footprint, the absolute difference between the telemetered flows and the State Estimator flows on transmission lines and transformers are within ten percent (10%) of the base rating. All other branches (elements) are inside the observable California ISO Market model.	B	6/1/07		Criteria is complete	
STL - 1	Settlements	CAISO will complete a Settlement and Market Clearing (SaMC) audit. The purpose of the audit will be to ensure that the SaMC software performs as defined in the CAISO MRTU Tariff.		1 Day Prior to Market Launch	P		
		STL - 1.1 CAISO completes the following activities to ensure consistency:	B	Entry PPS			

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
		1. Validation that the BPM for Settlements & Billing is consistent with the requirements that are identified in the CAISO MRTU Tariff.		Entry PPS		<p><b>October 2008 Update:</b> The Settlements BPM is consistent with the requirements that are identified in the CAISO MRTU Tariff.</p> <p>The Settlements BPM and its attachments can be found on the following link: <a href="http://www.caiso.com/17e9/17e97b196bd30.html">http://www.caiso.com/17e9/17e97b196bd30.html</a></p> <p>*Please note that the Settlements BPM is a living document and updates will be made to it as needed.</p>	
		2. Validation of the consistency between the Settlement BPM and the SaMC design documents.		Entry PPS		<p><b>October 2008 Update:</b> The Settlements BPM is consistent with the SaMC design documents.</p> <p>*Please note that the Settlements BPM is a living document and updates will be made to it as needed.</p>	
		STL - 1.2 An audit by an independent firm that validates the consistency of the SaMC software with the CAISO tariff is completed per the tariff timeline.		1 Day Prior to Market Launch		<p><b>November 2008 Update:</b> The audit is scheduled to be completed by early December 2008.</p>	
STL- 2	Settlements	CAISO will test and implement its final settlement charge code configuration. The final configuration must include required changes from market simulation activities, the Grid Management Charge (GMC), and any changes arising from the 9/21/06, 4/20/07, 5/8/08, 6/25/07, and 7/6/07 FERC Orders.		Entry PPS		<p><b>December 2008 Update:</b> The CAISO continues to work with Market Participants with settlement charge code validations. The "Daily Charge Code Status" is posted on the website at: <a href="http://www.caiso.com/1c2d/1c2d9ced4aa60.html#1caacdff53ca0">http://www.caiso.com/1c2d/1c2d9ced4aa60.html#1caacdff53ca0</a> Market Participants have reported that they are able validating charge codes and should be ready by go-live.</p> <p><b>January 2009 Update</b> The ISO continues to run the settlement</p>	
STL- 3	Settlements	CAISO will publish accurate and complete settlement statements and invoices during Update 2 of the Integrated Market Simulation phase. The published statements and invoices will be consistent with market participants activities during Update 2 of the Integrated Market Simulation phase.		Entry PPS		<p><b>December 2008 Update:</b> The CAISO continues to work with Market Participants with settlement charge code validations. The "Daily Charge Code Status" is posted on the website at: <a href="http://www.caiso.com/1c2d/1c2d9ced4aa60.html#1caacdff53ca0">http://www.caiso.com/1c2d/1c2d9ced4aa60.html#1caacdff53ca0</a> Market Participants have reported that they are able validating charge codes and should be ready by go-live. Mini-monthly statements have been published to help in monthly validations.</p> <p><b>January 2009 Update</b> The ISO continues to run the settlement system and calculate charge codes and settlement statements.</p>	

Integrated Market Simulation

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R3: 9/24/07 - 11/09/07; U1: 11/13/07 -12/21/07;  
U2: 02/19/08- 01/04/09; PPS: 03/01/09

### MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
TECH - 1	Technology	The Technical Operational Readiness Testing (ORT) exit criteria will be satisfied and approved by the CAISO Business Owners and the Director of MRTU IT. ORT exit criteria will include: 1. Successful completion of high availability testing. 2. Fault tolerance and failover/fallback testing. 3. Load and Performance Testing.		Entry PPS	P		
TST - 1	Testing	Performance Testing criteria for the IMS Releases 1-2 and Release 3 (including Updates 1 and 2) of Market Simulation will be met as defined in the Performance Test approach document.		Entry Update 2	B		
		TST - 1.1 Performance Testing entry and exit criteria are met for Release 1 of the Integrated Market Simulation.	B	Entry R1		R1 Performance testing is completed and has passed QRB review.	
		TST - 1.2 Performance Testing entry and exit criteria are met for Release 2 of the Integrated Market Simulation.	B	Entry R2		R2 Performance testing is completed and has passed QRB review.	
		TST - 1.3 Performance Testing entry and exit criteria are met for Release 3 of the Integrated Market Simulation.	B	Entry R3		R3 Performance testing is completed and has passed QRB review.	
		TST - 1.4 Performance Testing entry and exit criteria are met for Update 1 of Market Simulation.	B	Entry Update 1		The CAISO has performed Performance testing needed to enter into IMS Update 1. As a result, this criterion is marked as 'Complete'	
		TST - 1.5 Performance Testing entry and exit criteria are met for Update 2 of Market Simulation.	B	Entry Update 2		Update 2 Performance testing is completed and has passed QRB review.  <b>November 7, 2008 Update:</b> Due to recent systems performance in IMS U2, Performance Testing is in progress to resolve current issues.  <b>November 30, 2008 Update:</b> The CAISO continues to monitor systems performance and tests will be conducted as necessary. However, for the purposes of this Readiness Criteria, Performance testing has passed QRB review prior to the entry into IMS Update 2, therefore, this criterion is considered complete.	
TST - 2	Testing	Integration Testing criteria for the IMS Releases 1-2 and Release 3 (including Updates 1 and 2) of Market Simulation will be met as defined in the Performance Test approach document.		Entry Update 2	B		

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### MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
		TST - 2.1 Integration Testing entry and exit criteria are met for Release 1 of the Integrated Market Simulation. * This is integration testing to get into Market Simulation.	B	Entry R1		R1 Integration testing is completed and has passed QRB review.	
		TST - 2.2 Integration Testing entry and exit criteria are met for Release 2 of the Integrated Market Simulation. * This is integration testing to get into Market Simulation.	B	Entry R2		R2 Integration testing is completed and has passed QRB review.	
		TST - 2.3 Integration Testing entry and exit criteria are met for Release 3 of the Integrated Market Simulation. * This is integration testing to get into Market Simulation.	B	Entry R3		R3 Integration testing is completed and has passed QRB review.	
		TST - 2.4 Integration Testing entry and exit criteria are met for Update 1 of Market Simulation. * This is integration testing to get into Market Simulation.	B	Entry Update 1		Update 1 Integration Testing is completed and has passed QRB review.	
		TST - 2.5 Integration Testing criteria are met for Update 2 of Market Simulation.	B	Entry Update 2		<b>November 2008 Update:</b> Core integration testing has been completed for IMS Update 2; therefore, this criterion is considered complete. However, internally, additional integration testing may be performed when needed to support system patches that were identified during IMS Update 2. This activity is maintained through the change management process.	

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MRTU Readiness Criteria Dashboard

Readiness Criterion Identifier	Readiness Category	Readiness Criterion	Criterion Component Status	Target Due Date / Market Simulation Phase	Overall Category Status	Documentation and Comments	Issues and Mitigating Actions
BUS- BA - 1		<p>All MRTU systems will meet the business requirements and pass the Business Unit review. Acceptable manual workarounds will be identified for systems that do not satisfy the required business functions.</p> <ol style="list-style-type: none"> <li>1. The Settlement and Market Clearing (SaMC) system will pass Business Unit review.</li> <li>2. The Scheduling Infrastructure Business Rules (SIBR) system will pass Business Unit review.</li> <li>3. The Integrated Forward Market (IFM) system will pass Business Unit review.</li> <li>4. The Real-Time Market (RTM) system will pass Business Unit review.</li> <li>5. The Operational Meter Analysis and Reporting (OMAR) system will pass Business Unit review.</li> <li>6. The Master File will pass Business Unit review.</li> <li>7. The Open Access Sametime Information System (OASIS) system will pass Business Unit review.</li> <li>8. The Participant Intermittent Resource Program (PIRP) system will pass Business Unit review.</li> <li>9. The Automated Dispatch System (ADS) system will pass Business Unit review.</li> <li>10. The Reference Level Calculator (RLC) system will pass Business Unit review.</li> <li>11. The Existing Transmission Contract Coordination (ETCC) system will pass Business Unit review.</li> <li>12. The Compliance Automation Production System (CAPS) will pass Business Unit review.</li> <li>13. The Scheduling and Logging in California (SLIC) system will pass Business Unit Review.</li> <li>14. The Market Quality System (MQS) system will pass Business Unit Review.</li> <li>15. The Control Area Scheduling (CAS) system will pass Business Unit Review.</li> <li>16. The Automated Load Forecast System (ALFS) will pass Business Unit Review.</li> <li>17. The RMR Automated Validation Engine (RAVE) will pass Business Unit Review.</li> <li>18. The Full Network Model (FNM) will pass Business Unit Review.</li> <li>19. The PTR will pass Business Unit Review.</li> <li>20. The Energy Management System (EMS) will pass Business Unit Review.</li> <li>21. The Market Definition Service (MDS) system will pass Business Unit Review.</li> <li>22. The Congestion Revenue Rights (CRR) system will pass Business Unit Review.</li> </ol>		60 days prior to go - live		<p>November 2008 Update:</p> <p>All application transition sign-offs have been completed. Acceptable manual workarounds have been identified for systems that do not satisfy the required business functions. However, as further testing of the applications continue, additional manual workarounds will be developed if needed.</p>	
BUS- BA - 2	Business Approval Business Area	<p>CAISO will submit to FERC its readiness certification based upon the following information:</p> <ol style="list-style-type: none"> <li>1. Review of all readiness criteria</li> <li>2. All Market Participant input through the assessment process</li> <li>3. Resolution of critical high issues</li> <li>4. Completion of cutover and reversion plans</li> <li>5. Completion of contingency plans</li> <li>6. Completion of cutover walkthrough</li> <li>7. 60 Day Plan</li> </ol>		60 days prior to go - live		The readiness certification was filed on January xx, 2009.	

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