



California Independent  
System Operator Corporation

January 14, 2008

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 Ms. Bose:

Enclosed for filing in the above-captioned docket, please find an electronic copy of the January 2008 Status Report of the California Independent System Operator Corporation.

Respectfully submitted,

**/s/ Sidney Mannheim Davies**

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Operator Corporation  
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Attorneys for the California Independent  
System Operator Corporation



to commence on January 2, 2008. The Commission granted the CAISO's motion by order issued on January 7, 2008.

The attached report provides a detailed summary concerning the status of the three components of the MRTU project: People, Process and Technology.<sup>1</sup> For the Technology category, the report indicates that the delay of IMS-U2 will affect the current proposed Go-Live date of March 31, 2008. As of the date of this report, the CAISO is unable to state when IMS-U2 will be ready to start and, therefore, unable to determine the impact on the Go Live date.

The report also indicates that, based on a March 31, 2008 implementation date, there are delays with respect to the other two readiness categories. These delays, by themselves, would not affect the Go Live date. As described in the report, the CAISO continues to prepare itself for MRTU implementation to minimize the impact on the Go Live date.

In addition to the CAISO Business Unit Readiness and Market Participant Readiness, one of the readiness criteria is obtaining the necessary Commission approvals for Go-Live. The CAISO would like to provide this opportunity to note pending filings awaiting Commission action and to clarify whether any such filings require an effective date prior to MRTU Go-Live. The CAISO notes the following filings pending Commissions action:

- 1) Ancillary Services Regions Compliance Filing (P. 380 and 381 of the September 21, 2007 MRTU Order – Docket No. ER06-615) – filed March 20, 2007;

- 2) August 3, 2007 Compliance Filing (Docket Nos. ER06-615 and ER07-1257);
- 3) Interim Measures for Underscheduling in the Day-Ahead Market Compliance Filing (P.452 of September 21, 2007 MRTU Order – Docket No. ER06-615) – filed September 28, 2007;
- 4) Load Following RMR Units Compliance Filing (P. 175 of the June 25, 2007 MRTU Order – Docket No. ER06-615) – filed October 5, 2007
- 5) Bid Cap on Start-Up and Minimum Load Cost Amendment Filing (Docket No. ER08-73) – filed October 19, 2007;
- 6) RMR Contract Compliance Filing (Docket No. ER06-615-015) – filed October 26, 2007;
- 7) Business Practice Manual Technical Conference Compliance Filing (Docket Nos. ER06-615-012 and ER07-1257) – filed November 15, 2007; CAISO Reply Comments to November 15, 2007 BPM Technical Conference Filing – filed December 7, 2007; and
- 9) Fourth Replacement CAISO Tariff (Docket Nos. ER06-615 and ER08-367) – filed December 21, 2007.
- 10) CRR Amendments in Compliance with the Commission’s July 6, 2007 Order in Docket Nos. ER07-869-000; ER07-475-000; and ER06-615-001 – filed July 20, 2007.

In none of these pending filings is the CAISO requesting an effective date prior to the implementation date of the overall MRTU program notwithstanding

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the various proposed effective dates in the filed tariff sheets. As of the CAISO's December 21, 2007 filing of the revised MRTU Tariff, which included all the pending tariff language with the proposed effective date was March 31, 2008. Although the proposed effective date may change, all of the pending tariff language is intended to have the same effective date.

Regarding early effectiveness, the CAISO has filed tariff amendments separately to include MRTU-related tariff provisions as part of our currently effective ISO tariff on two subjects: Congestion Revenue Rights and related tariff language and Resource Adequacy provisions. The Commission has issued orders addressing these subject areas and the CAISO is not currently waiting for any further orders in these areas but notes that there will shortly be pending compliance filings in response to the January 9, 2008 order in response to the August 3 compliance filing on Resource Adequacy, which also applies to ER08-64, the docket in which the CAISO sought early effectiveness of MRTU Resource Adequacy provisions. Finally, the CAISO anticipates making one more tariff amendment filing seeking early effectiveness. This may be limited to the authority to accept Bids and Self-Schedules seven days prior to the first day of the Day-Ahead Market. Again, as in prior filings seeking early effectiveness, the CAISO will incorporate the requisite tariff language in to the currently effective ISO Tariff.

Respectfully submitted,

**/s/ Sidney Mannheim Davies**  
Sidney Mannheim Davies

Counsel for the California Independent  
System Operator Corporation

Dated: January 14, 2008

**ATTACHMENT**  
**Market Redesign and Technology Upgrade**

**FERC Report**

**January 14, 2008**

# **Market Redesign and Technology Upgrade**

## **FERC Report**

**January 14, 2008**

## Executive Summary:

This report provides the accomplishments and status of the Market Redesign and Technology Upgrade (“MRTU”) for December 2007 and early January 2008, including the impact of the Integrated Market Simulation - Update 2 (“IMS Update 2”) delay that was scheduled to commence on January 2, 2008.

The overall purpose of this document is to provide the Commission with additional information supporting the California ISO’s continued efforts to preparing itself and its Market Participants to commence MRTU operations. Specifically, this packet provides supporting documentation that the California ISO is advancing in areas of readiness with respect to:

- a) Technology Readiness
- b) Business Unit Readiness
- c) Market Participant Readiness

## Overall Dashboard

The following dashboard outlines the status for Business Units, Market Participants and the MRTU Program Management for the components People, Process, and Technology.

**Please Note:** When viewing the Dashboard below, please note that both the CAISO Business Units, as well as the Market Participants were assessed based off of a Go-Live Trade Date of April 1, 2008. The status provided for both the Business Units and Market Participants below is as of January 7, 2008, and in each case, the status provided is reflective of the lowest common denominator (score) for each category.

Category	Business Units		Market Participants
	Core	Non-Core	
People			
Process			
Technology			

 = No Delays

 = Delay, but will not impact 4/1/08 Go-Live Trade Date. Contingency maintained, but at risk

 = Delay, will impact program delivery and 4/1/08 Go-Live Trade Date. Use of contingency funds

### Technology/Testing Readiness:

The MRTU Integration Testing project has been focused on the completion of Functional Integration and End-to-End testing for the start of Integrated Market Simulation – Update 2 (IMS Update 2) that was scheduled to commence on January 2, 2008.

#### Key Accomplishments:

- **Functional Integration Test (“FIT”) Planning:** Completion of Functional Integration Test (FIT) Planning for IMS Update 2
- **FIT Testing:** Execution of FIT for IMS Update 2 is 77% complete (50 of 65 test cases).
- **ETE Planning:** Completion of End-to-End (ETE) Test Planning for IMS Update 2
- **ETE Testing:** Execution of ETE testing is 15% complete (7 of 47 test cases).

#### Key Issues:

- Inability to complete FIT/ETE Testing in order to start IMS Update 2 due to delays in Vendor deliveries and core Market System stability issues
- Large number of outstanding system issues that will need to be resolved before exiting IMS Update 2

### Internal Readiness:

As of December 31, 2007, the Readiness Team has completed the Plan, Analysis, Design, Build and Implement Phase Assessments.

#### Key accomplishments of the various assessment phases consisted of:

- **Training:** Developed 15 MTRU Training courses. Of which, 96% of the mandatory MRTU Training has been completed (Level 100, 200, and 300).
- **To-Be Processes:** 17 critical End-to-End MRTU Business Process have been developed and completed through high level walk through (phase 1) to issue resolution (phase 3) of the Business Process Walkthrough effort. The fourth and final phase is to test processes during market simulation.
- **Transition Schedule:** An approach for transition plan sign-off has been defined and communicated to Project Managers. Transition of applications and functions has occurred in numerous areas.
- **Communication:** 8 Business Process Education Sessions of key MRTU business processes were presented to the CAISO staff.

#### Key areas of risk that were identified during the Implement phase are:

- **Testing Schedule and Application Delays:** Testing and application delays have not allowed all Business Unit’s to complete internal readiness tasks and deliverables that were due by 11/30.
- **Business Process End-to-End Testing:** Current schedule may not allow sufficient time for Business Unit’s to test and refine their processes to support MRTU Go Live prior to IMS Update 2 and Pre-Production.

**External Readiness:**

The CAISO has completed the first two of three Participant assessments and continues to host MRTU outreach activities to ensure that Market Participants are in the best possible position to achieve MRTU Readiness.

Key accomplishments of the various assessment phases consisted of:

- Delivered 26 Instructor-Led Training and 13 Computer Based Training courses to over 1000 representatives of Market Participants. (Level 100, 200, 300, and Bid to Bill)
- Delivered 2 Settlement Workshops to assist with Charge Code validation.
- The CAISO implemented The Quick Response Team to support strategic Participants in IMS and Issues resolution.
- Completed October-November Touch points with Participants to discuss Market Simulation experience and understand key issues and risks that remain.

Key areas of risks that were identified during the Implement Phase are:

- **Settlements Charge Code Validation:** During IMS R3 and Update 1, Market Participants expressed issues with the validation of Charge Codes that were in scope for the simulation. Participants also expressed concern about the timeline of validating the remaining charge codes in scope for IMS Update 2.
- **Validation of Market Participant systems and processes:** The current schedule for IMS may not allow Market Participants the sufficient time to test out their systems and processes and make the necessary modifications.
- **Functional and Performance Issues with IMS Systems:** Market Participants have raised concerns that although systems were available technically, the systems were not usable due to performance or functional issues.

Risks and Mitigations	
<b>Technology/Testing</b>	<ul style="list-style-type: none"> <li>• <b>Vendor Deliveries</b> - Key variances required to start Update 2 market simulation were not meeting the delivery schedule. Vendor has had a large team on site in Folsom focused solely on resolving CAISO's issues and Market Participant variances from Update 1.</li> <li>• <b>System Stability and Performance</b> – While Day-Ahead and Real-time markets have been running, there are still intermittent problems that arise daily that hamper meeting the scheduled timeline for running of markets. The vendor has made strides in the application performance, but additional patches need to be received to meet the CAISO's performance requirements.</li> <li>• <b>Participant Expectations for Update 2</b> – The Market Participants are expecting everything to be functional at the start of Update 2. Most of the functionality will be available at the start of the market simulation, but some of it will need to be phased in over the first month of the simulation.</li> </ul>

**Risks and Mitigations (continued)**

**Business Units**

- **Core Business Units** – During the recent Implement Phase Readiness Assessment (11/30/07), it became apparent that not all Core Business Units are on track. Common risk/problem areas identified include: Understanding and completion of the Transition and Support Plans of Application to Business Unit/IT, Testing Schedule and Application delays impacting readiness activities, Business Reporting Tools and Applications development delays, and approach and completion of Business Process End-to-End Testing.

In each of the risks/problem areas highlighted above, a Go-Live checklist of all remaining activities was created and will be tracked on a weekly basis.

- **Non-Core Business Units** - The Implement Phase Readiness Assessment revealed that all Non-Core Business Units are on track.

The Readiness Team will continue to work closely with the applicable Business Units to complete the remaining Go-Live activities and deliverables. These activities includes working with Business Units, Program Management, and Testing Team to ensure application testing is executed, end to end business process are proved out, transition is finalized and all deliverables are completed and signed-off.

**Market Participants**

The Market Participants' Readiness in the People, Process and Technology areas is highly dependent upon a stable and effective Market Simulation environment to practice their internal processes and the ability to fully validate Settlement Charge Codes. The Market Participants, and their Vendors, have been unable to successfully test their systems in order to validate their processes and technology. Additionally, during IMS Release 3 and Update 1, Market Participants have expressed issues with validating the charge codes that were in scope. The CAISO continues to do the following to achieve an effective Market Simulation:

- Conduct Settlement Workshops to explain the details and steps for validation of each Settlement Charge Code that is in scope for Market Simulation. Two Settlement Workshops have been provided on 9/21/07 and 11/15/07. An additional Settlement Workshop will be provided for Charge Codes in Update 2 Market Simulation.
- The ability for Market Participants to provide their own bids during Market Simulation.
- The Quick Response Team will continue with their objectives until Go-Live.
- Market Participant Scenarios will be tested during unstructured Market Simulation.
- Provide Market Simulation status reports showing which Charge Codes have valid results for each day of Market Simulation as well as a report that provides useful information on system status.
- Continue with the scheduled meetings and workshops (ie: monthly MRTU Implementation Workshops, bi-weekly SIUG and SaMC meetings).

**Key Activities and Next Steps:**

- The Quick Response Team will continue to address Participant issues in Integrated Market Simulation.
- Additional MRTU Training has been scheduled for 2008.
- IMS Update 1 concluded on December 21, 2007.
- The CAISO is currently reviewing the IMS Update 2 schedule.
- The MRTU Final Assessments will be scheduled during IMS Update 2 and completed 30 days prior to Go Live.
- Completion of SAIC System Certification, LECG Report and PwC Audit Opinion.
- FERC Informational Filing 60-Days in advance of Go Live (report will include status of remaining activities & milestones).

## Component Summaries:

### Technology/Testing Readiness:

The MRTU Integration Testing project has been focused on the completion of Functional Integration and End-to-End testing for the start of Integrated Market Simulation Update 2 (IMS Update 2). Testing has included the evaluation of new Market System components, an upgrade to the Network Model, regression testing of previously introduced system functionality, and the integration of additional legacy applications. Update 2 is significantly different from Update 1 because the platform for the major systems was upgraded causing a requirement for all applications to revise the web services that broadcast and receive data between applications. In addition, Update 2 is the first market simulation that will integrate all 24 applications that CAISO will be using once MRTU is in production.

MRTU Schedule	
Current Period	Trend
	

**Tracking Delay: 0 weeks**  
**Critical Path Items:** Vendor Delivery, Integration Testing, Market Simulation Schedule  
*\*Based on approved 4/1/08 Go-Live Trade date*

MRTU Budget	
Current Period	Trend
	

**Approved MRTU budget: \$189.223 M\***  
*\*Based on approved budget on 12/06*

- Integrated Market Simulation Update 1 concluded on 12/21/2007.
- Integration Test execution for Update 2 is in progress integrating FERC changes plus remaining MRTU and Legacy systems.
- CAISO working to address stability and performance issues with the Update 2 environment and applications.
- PMO has been allocated \$4.5 million of the contingency to date. Total Program budget remains intact for the 4/1/08 market start.
- PMO continues to process change requests and evaluate against approved budgets.

	Complete
	No Delays
	Delay, but will not impact 4/1/08 go-live Trade date.
	Delay, will impact program delivery and 4/1/08 Go-Live Trade Date. Use of contingency funds.

**Market Simulation:**

The California ISO has completed six phases of Market Simulation to date. The latest two phases of Integrated Market Simulation have integrated the Day-Ahead and Real-Time Markets, and upon completion of IMS Update 1 on December 21, 2007, 29 of 121 Charge Codes were confirmed In-Scope for Market Participant validation.

Six weeks of MRTU Integrated Market Simulation Update 1 (IMS U1) have highlighted some differing expectations about the IMS effort and the limitations of relying on numbers alone. Overall, the system availability and participation numbers show the effort has gone well and continues to do what it was intended to do – provide Market Participants the opportunity to test MRTU applications end-to-end. However, Market Participants have raised concerns that don't appear in the hard numbers, particularly regarding system availability vs. system usability.

- More than 100 SCs participated, representing an average of 91 percent of the generation capacity in the ISO Controlled Grid. This means most of the market is engaged in IMS, a very encouraging result.
- All applications in scope met the 85 percent targeted availability during supported hours of 8 a.m. to 5 p.m., with ranges of availability from 93 to 99 percent. Market Participants, however, have raised concern that although systems were technically available, the systems were not usable due to performance or functional issues.
- The Day-Ahead Market was successfully executed 100 percent of the time, but as noted by Market Participants, market results were often published after the Market timeline defined in the Business Practice Manuals and they have not been able to validate all of the settlements results yet.
- The Real-Time Market execution statistics were showing actual execution results above the targeted execution rate of 70 percent. After investigation of issues raised by Market Participants regarding inconsistencies between the Real-Time Execution Report and published Real-Time results though, CAISO determined the report did not accurately track the success of the Real-Time Market from the Market Participants' perspective. The report tracked the success of the Real-Time Market interval run but did not track the successful publication of results to downstream systems. CAISO is working on identification and development of a new Real-Time Execution Report to more accurately reflect this metric from Market Participants' perspective for IMS U2.
- The Market Simulation ended with no “Critical” issues remaining open, but 8 “Very High” and 197 “High” issues remained open. The CAISO is aggressively working to resolve these issues, sometimes receiving 40-50 new issues daily during market simulation execution. In addition, three check points have been scheduled (starting in Jan) with Market Participants to review and discuss all open critical, very high, and high issues; by the end of IMS U2, all high issues will either be resolved, mitigated or have a schedule for resolution to start Pre-Production.

For IMS Update 2, the California ISO has worked with Market Participants to define forty-six operational scenarios for execution during Market Simulation. Scenario execution began in IMS Update 1 and will continue through IMS Update 2 to successfully execute all defined scenarios. The CAISO has also worked with Market Participants to define Exit Criteria for IMS Update 2. The IMS Update 2 Exit Criteria will help ensure the readiness of both the CAISO and Market Participants before entering Pre-Production. Please see Attachment A for Update 2 Market Simulation Exit Criteria.

Test planning for Functional Integration Test (FIT) and End-to-End Test (ETE) for IMS Update 2 have been completed. FIT, ETE and Quality of Solution Test execution is currently in progress. Testing has been delayed due to challenges with vendor deliveries, system performance, stability, and the overall quality of the core market systems. Completion of FIT and ETE (including Cross-Application Validation and Bid to Bill Validation) are necessary to start IMS Update 2. CAISO wants to ensure that the market simulation start is smooth, meets the performance requirements of both CAISO and Market Participants, and resolves some of the outstanding issues from Update 1.

The following are major issues and risks, which have caused testing delays and delayed the readiness of MRTU technology for IMS Update 2.

- Inability to complete FIT/ETE Testing in order to start IMS Update 2:
  - Delays in Vendor Deliveries
  - Incomplete Site Acceptance Testing (SAT) of Market System Components prior to the start of FIT
  - Core Market System stability issues
  - Failure of Market Systems to meet market/performance timelines
  - Unacceptable quality of Market Solutions
- Large number of outstanding system issues that will need to be resolved before exiting IMS Update 2

The following are planned activities for the testing team in order for MRTU Technology to be ready to begin IMS Update 2. The Program Management and testing team are monitoring these on a daily basis:

- Completion of FIT Execution for IMS Update 2
- Completion of ETE Test Execution for IMS Update 2
- Completion of Quality of Solution Test Execution for IMS Update 2

Please note, at the time of filing the CAISO is reviewing the IMS Update 2 schedule and Go Live schedule to ensure that Market Participants are provided one week of structured and 8 weeks of semi-structured market simulation along with a minimum of 2 weeks Pre-Production per discussions with the Market Participants.

## CAISO Business Unit Readiness:

In an effort to accurately monitor, track, and report the readiness activities of each Business Unit, several phases have been created, each with different milestones for deliverables, training, and process identification. In total, there are 6 phases: Plan, Analysis, Design, Build, Implement, and a Final Assessment.

The Plan Phase occurred from: Group A: 10/1/06 – 11/31/06; Group B: 11/1/06 – 1/31/07

The Analysis Phase occurred from: Group A: 10/1/07 – 11/31/07; Group B: 2/1/07 – 3/31/07

The Design Phase occurred from: 3/1/07 – 5/31/07

The Build Phase occurred from: 6/1/07 – 8/31/07

The Implement Phase occurred from: 9/1/07 – 11/30/07

Final Business Unit Assessment: 12/15/07 – 1/15/08

Go-Live Punch List: 1/16/08 – 3/31/08

As of December 31, 2007, the Readiness Team has completed the Plan, Analysis, Design, Build and Implement Phase Assessments. At the completion of the Implement Phase, Business Units were measured against criteria and assessed on deliverables to determine if they had finalized their To-Be Processes and Operating Procedures, completed all required MRTU Training, obtained all necessary business reporting tools and applications for Go Live and built out and finalized their transition and Go Live support plans.

The following dashboard outlines the status for Internal Readiness and External Readiness.

**Please Note:** When viewing the Dashboard below, please note that both the CAISO (Internal Readiness) as well as the Market Participants (External Readiness) were assessed based off of a Go-Live Trade Date of April 1, 2008. The status provided for both the Internal Readiness and External Readiness below is reflective of the lowest common denominator (score) for each category.

Internal Readiness	
Current Period	Trend
Y	➔

- Reported results of Implementation Assessment conducted on 11/30/07 with all Business Units. Created final go-live checklists of remaining activities by Business Units.
- Began planning of complete end to end business process testing of critical MRTU processes
- Scheduled Operator Role-Based Training. Continued developing Training and Scenario-based testing and conducting SME review sessions with the Operators.

External Readiness	
Current Period	Trend
Y	➔

- Completed Update 1 Market Simulation with noted concerns expressed by the Market Participants.
- Continued planning and set up for Update 2 Market Simulation.
- Continued Market Simulation support initiative to help prepare Participants.
- Participant Check Points/Follow Ups planned throughout Market Simulation Update 2.
- Continued work with Market Participants on validating IMS Update 1 in scope charge codes. Noted participant concerns with timeline of remaining charge codes in scope for IMS Update 2.

●	Complete
●	No Delays
●	Delay, but will not impact 3/31/08 go-live date. Contingency maintained, but at risk
●	Delay, will impact program delivery and 3/31/08 Go-Live Date. Use of contingency funds

Key accomplishments of the Implement Phase consisted of:

- **Training:** 98% completion (or waived) of Level 100. 97% completion (or waived) of Level 200 Training. 84 % completion (or waived) of Level 300 Training.
- **To-Be Processes:** Phase 3 Walkthrough targeted the identification of 17 new End-to-End processes issues/gaps, and the resolution (or development of mitigation plans) for high and critical issues/gaps were identified. By the end of Phase 3 Walkthrough, 67% of the total issues/gaps have been resolved.
- **Transition Schedule:** An approach to collect, communicate and attain sign-off for transition plans has been defined. Transition guidelines and high-level schedule were agreed upon and communicated to the Project Managers. Masterfile, Operational Meter Analysis and Reporting (OMAR), Full Network Model and SaMC have been transitioned to the Business Units to support during IMS Update 2 execution.
- **Communication:** 8 Business Process Education Sessions were presented to the CAISO organization to provide a high-level training on key MRTU Business Processes. In addition, MRTU Roadshows were held for the

Business Units to communicate the activities, events and key milestones from October 2007 to Go Live.

Key areas of risk that were discovered during the Implement Phase are:

- **Transition of Applications/Functions to Business Unit/IT:** Transition and Support Plans for most applications/functions are currently in various states of completion for all Business Units. Further details of the transition and support plans will be discussed with each Business Unit and Project Manager.
- **Testing Schedule and Application Delays:** Due to testing and application delays, all Business Unit's did not complete internal readiness tasks and deliverables that were due by 11/30. A plan will be put in place to work with the Testing team to ensure regular updates to all Business Unit Readiness Leads, and provide greater transparency and consistent communications of testing schedule planning and status.
- **Business Reporting Tools and Applications:** Business Units may not have the tools and applications needed by the start of IMS Update 2 for their BU scenario testing. A plan will be created to work with IT to monitor, report and escalate the status of reports/tools needed by Business Unit's for IMS Update 2.
- **Business Process End-to-End Testing:** The current schedule may not allow sufficient time for the Business Unit's to test and refine their processes prior to IMS Update 2 and Pre-Production, in order to support MRTU Go Live. A plan and approach will be defined to work with the Group A Business Units to perform End-to-End testing of their business processes throughout IMS Update 2.

Based off of the risk areas identified above, a Go-Live checklist of all remaining activities was created by Business Unit. This will be tracked on a weekly basis to ensure that all activities are complete prior to Go-Live.

#### **Internal Training:**

Internally, the CAISO offers a blend of 100 through 400 Market Training and Siemens Technical Training. Training is tracked to a core curriculum to ensure that employees are given the necessary training to perform their roles. To date, over 470 CAISO employees have completed their mandatory 100 through 300 Level training with a 96% completion rate overall. Remaining activities include the Operators Role-Based Training, Refresher Courses and Siemens Technical Training.

## **External Readiness:**

In an effort to monitor Market Participants' readiness activities in the year prior to Go Live, it was decided that three Participant Assessments (Initial Assessment, First Follow-up Assessment, and the Final Assessment) would occur from November 2006 to Go Live. To date, the CAISO has conducted two Assessments. Both assessments consisted of questions that surround three categories: People, Process, and Technology in the areas of Communication, Market Simulation, Training, Organizational Readiness and Technical Readiness.

The Initial Participant Assessment began in November 2006 and ended January of 2007. This assessment was used to engage the Scheduling Coordinators and to ensure that they have been provided with all the means to obtain information, training and to ask questions of the CAISO.

The First Follow-up Assessment began in June 2007 and ended in August 2007. The primary focus was to gauge the Participant's progress in their MRTU implementation. The Assessment also provided the Market Participants with another venue to ask questions or express concerns over their MRTU implementation.

After the completion of each Assessment, the CAISO developed customized Action Plans that provided Participant and CAISO Action Items, and indicated if a Scheduling Coordinator was considered "On Track" or "Behind Schedule" based on the Participants' responses and CAISO expectations for that Assessment period in the areas of People, Process and Technology.

The Readiness Team is currently preparing for the Final Assessment process scheduled to begin during Update 2. The Final Assessment will be used to confirm our understanding and gain agreement by the Scheduling Coordinators that there are no gaps in the People, Process, and Technology areas that would prevent the Scheduling Coordinator from operating in the Market under the MRTU rules and processes. If gaps are identified during the Final Assessment, mitigation plans will be developed with the Scheduling Coordinator and continual discussions will be held to monitor implementation of the needed actions and to ensure that the Scheduling Coordinator is ready for the MRTU Go Live date.

The CAISO has continued with the various communication forms and outreach activities to ensure that Market Participants are in the best possible position to achieve MRTU readiness by Go-Live. The CAISO has observed consistent participation rate of Market Participants in the Implementation Workshops, Market Simulation Planning sessions, System Interface User Group (SIUG), Participant Readiness Assessment Group (PRAG) meetings, and Settlements and Market Clearing (SaMC) meetings.

During IMS Release 3, the CAISO conducted Touchpoints with Market Participants to solicit feedback on their experience with Market Simulation. Specifically, how the Market Simulation is meeting their needs for Readiness and if there are any additional activities the CAISO should consider in order to improve the Market Participants' IMS experience. It was also a chance to encourage participation in IMS and request that Market Participants tell the CAISO

of any significant barriers that could prevent the Market Participants from participating in the MRTU. Issues identified during the Touchpoints have been assigned for resolution.

**External Training:**

Externally, the CASIO offers 100 through 300 Level training and Settlements Workshops for Market Participants through Computer Based Training and Instructor Led training. At the end of 2007, over 1000 representatives of Market Participants have attended the 26 Instructor Led training sessions hosted at the CAISO and at the sites of several Scheduling Coordinators. Overall 72 out of 86 Scheduling Coordinators has taken part in the training sessions. The CASIO has scheduled another Level 200 and Bid to Bill training session for Market Participants in 2008 and will hold a Settlements Charge Code Walkthrough for Update 2 Market Simulation.

In addition, the MRTU Training team continues to evaluate training requests and offer new training as appropriate, both internally and externally. Also, all delivered training materials are posted to the CAISO website.

**Quick Response Team:**

The Quick Response Team was created in order to address challenges that the CAISO experienced during prior Market Simulation test phases. Specifically, the CAISO established the Quick Response Team as a single point for issue coordination, identifying the following as high-level objectives:

- Provide visible, direct and focused support related to issues that have cross-market impacts, helping to ensure a successful Market Simulation;
- Identify Participant Liaisons to leverage existing participant relationships and MRTU knowledge, providing customized support for Market Participants;
- Facilitate knowledge transfer within the ISO with respect to MRTU, and provide Participant Liaisons with direct access to subject matter experts;
- Allow for real-time issue identification and prioritization to facilitate resolution of critical issues.

Initial Quick Response Team coordination activities took place in late November 2007. To date the Quick Response Team has achieved the following major objectives, the execution of which will be continued through to MRTU Go-Live:

- Identified those issues that are of highest cross-market impact to participants and focused on their resolution;
- Provided direct support to the market by conducting on-site meetings and conference call outreach sessions involving MRTU subject matter experts;
- Established reporting metrics to identify Quick Response Team impacts and areas for support improvements;
- Established a process to provide real-time support for connectivity and security issues, allowing Market Participants to resume testing in as short a period as possible;
- Defined improved approach for communication Quick Response Team- and MRTU-related items to Market Participants.

As of January 4<sup>th</sup>, the following objectives related to Market Simulation issues management were achieved by the Quick Response Team:

- 63 issues identified as having cross-market impacts and requiring Quick Response Team action
  - a. 45 – Closed, ready for Market retest, or in CAISO internal test for Update 2 (up from 37 at the end of Update 1)
  - b. 18 – Open and under active investigation (up from 16 at the end of Update 1)

### **Readiness Criteria:**

As directed in FERC Order 1417 and with the support of the Market Participants and feedback from the Participant Readiness Advisory Group (PRAG), the CAISO developed measurable Readiness Criteria that allowed the CAISO to:

- Develop a tracking system tied to milestones within the MRTU program timeline,
- Establish a methodology to determine if Scheduling Coordinators and the Market Participants are prepared for MRTU Implementation as well as if the CAISO is ready,
- Provide for a monthly update to FERC on the status of these Readiness Criteria, and
- Use as input into the CAISO's certification of readiness to be filed with FERC 60-days prior to the MRTU effective date.

The CAISO began tracking and publishing the status of the Readiness Criteria on January 31, 2007 and has provided monthly status to the Market and to FERC via the MRTU Readiness Criteria Dashboard.

As of December 2007, the status of the Readiness Criteria is as follows:

- Total Number of MRTU Readiness Criteria: **33**
- # of Completed Readiness Criteria: **6**
- # of "On Track" Readiness Criteria: **18**
- # of "Not On Track" Readiness Criteria: **9**

Readiness Criteria that are "Not On Track" have documented Mitigation Plans in place to ensure that all risks and issues are addressed prior to Go-Live. The Readiness Criteria dashboard can be found on the CAISO website.

\*Please see Attachment B for the December Readiness Criteria High Level Overview.

## **FERC STATUS:**

As of the date of this update, the CAISO has complied with all directives stemming from the September 21, 2007, April 20, 2007 and June 25, 2007 MRTU orders except for the following items for which the CAISO sought an extension of time to comply: (1) P 380 of the June 25 Order, which requires the CAISO to address back stop measures in the event of a shortfall in the Resource Adequacy program; and (2) P 162-164 from the June 25 Order, which requires the CAISO to clarify proposed tariff language relating to relaxation of transmission constraints when there is insufficient economic bids to clear the market. FERC has granted the CAISO's motions for extension to comply with these requirements by January 31, 2008. In addition, the former item will be filed at the Commission as part of the Interim Capacity Procurement Mechanism filing, which is to be considered by the Board of Governors at the January 28 meeting. In light of the implications of the delay of IMS Update 2, the CAISO intends to seek an additional extension of time to comply with these requirements.

Between August 3, 2007 and the December 21, MRTU filings, the CAISO submitted filings that addressed the following compliance requirements and Section 205 tariff amendments:

- P.452 – September 21 Order concerning Interim Measure for Underscheduling in the DAM
- P. 59 - June 25 Order concerning re-sales of firm capacity sold to a hub
- P. 175 June 25 Order concerning use of RMR units by load-following MSSs
- Cap on Start-Up and Minimum Load Bids
- Revisions to the pro forma RMR Contracts to be consistent with MRTU
- MSS Opt-Out Bid Cost Recovery
- Revisions to the Station Power program to be consistent with MRTU
- Merger of the S&R and MRTU Tariff, as appropriate
- Reversion tariff language
- Pro Forma Contracts (Appendix B); LGIA and LGIP Filing (Appendices U & V)
- Tariff language stemming from review of Business Practice Manuals
- Updating defined MRTU terms
- Other Miscellaneous 205 Filings approved by the Board of Governors on December 13, 2007

The CAISO will be making the following filings, in addition to the compliance items remaining from the June 25 Order, no later than 60-days prior to going live:

- New tariff amendment to address declines of intertie dispatches approved by the Board of Governors on December 13
- New tariff amendment to mitigate prices paid under Exceptional Dispatch to be presented to Board of Governors on January 28
- Grid Management Charge under MRTU
- Revisions to PIRP charge codes to be consistent with MRTU
- Revisions to settlements language for allocation of Voltage Support cost to be consistent with MRTU

- Additional tariff language to add details concerning integration and modeling of Balancing Authority Areas”
- Further explanation to FERC relating to Export Priority and the development of a manual process
- Manual process for Extremely Long Start Commitment
- Tariff amendment to implement any additional elements of MRTU that need to be implemented prior to Go Live date, e.g. opening the bidding window for the Day Ahead Market
- Miscellaneous tariff amendment requiring business process modifications as a result of lessons learned from market simulation
- 60-day MRTU Certification of Readiness

### **BPM Status:**

The Business Practice Manuals (BPMs) remain Business Unit owned and the individual review and release schedules are defined but continue to be subject to change. An important factor governing the schedules for the BPMs is the outstanding FERC orders which could result in changes to the tariff and the related BPMs. As of November 15, 2007, all applicable BPMs have been revised based on commitments made at the FERC Technical Conference and Market Participant comments to date.

The following is a list of the BPMs and the most recent revisions:

- BPM for Compliance Monitoring (Most recent version posted Nov 15)
- BPM for Definitions and Acronyms (Most recent version posted September 21)
- BPM for Market Instruments (Most recent version posted Nov 15)
- BPM for Market Operations (Most recent version posted Nov 15)
- BPM for Metering (Most recent version posted Nov 15)
- BPM for Reliability Requirements (Most recent version posted Nov 15)
- BPM for Settlements and Billing (Most recent version of main body posted June 7; most recent update Attachment E posted on Jan 3, 2008)
- BPM for CRR Holder Registration (in effect, most recent version posted June 7)
- BPM for Congestion Revenue Rights (in effect, most recent version posted Nov 15)
- BPM for Change Management (Most recent version posted Nov 15)
- BPM for Credit Management (in effect, most recent version posted Nov 19)
- BPM for Managing Full Network Model (Most recent version posted Nov 15)
- BPM for Outage Management (Most recent version posted Nov 15<sup>1</sup>)
- BPM for Rules of Conduct Administration (Most recent version posted April 2)
- BPM for Scheduling Coordinator Certification and Termination (in effect, most recent version posted on Aug 20)

Unless indicated otherwise, BPMs will be in effect as of MRTU Go Live. Once MRTU has been implemented, the Change Management Process will go into effect and govern all future changes made to the BPMs.

**Status of Activities:****SAIC Market Software Certification:**

The CAISO has completed the preliminary certification of MQS and SIBR projects based on the 11/15/07 Tariff filing. For both SIBR and MQS, recommended clarifications from the Market Certification Team have been communicated to the CAISO legal team based off of this review. Current efforts are now focused on review and preliminary certification of both IFM/RTN and CRR projects based on the 11/15/07 Tariff. Once the CAISO legal team has made the final Tariff filing, a last true up of each project will be made (based on Tariff updates) for final certification.

**PriceWaterhouseCoopers Audit:**

PriceWaterhouseCoopers (PwC) is completing an Audit (tariff review and software testing) for 126 Charge Types and 151 Charge Codes (including pre-calculations). Currently, they are 27% complete through the tariff review and software testing. As new Charge Types and Charge Codes complete bid to bill validation of testing, PwC will complete the required tests.

Upcoming Dates

Testing	Now - February 2008 *
Monitor any changes/Update testing	January-March 2008
Report Issuance	Go Live Trade Date

*\* Due to delays in Market Simulation Update 2 and the impact on the SaMC software testing, PwC software testing will continue into February 2008..*

**LECG Report on Market Solutions:**

The analysis track testing effort is underway with 42 certification test cases that are being executed on the latest IFM/RTN software to produce pricing results that will then be analyzed through the LECG pricing certification tool to verify pricing results based on the optimization algorithm. The tests are being re-executed after several software variances were addressed by the vendor in the IFM/RTN applications. Once the test results are validated by LECG, a draft report will be made available to Market Participants.

**Next Steps:**

- The Quick Response Team will continue to address Participant issues in Integrated Market Simulation.
- Additional MRTU Training has been scheduled for 2008.
- The CAISO is currently reviewing the IMS Update 2 schedule and Go Live date.
- The MRTU Final Assessments is scheduled to take place in February 2008.
- Gather Readiness Statements from key Market Participants
- SAIC Software Certification - software systems accurately implement MRTU Tariff and traceable through business requirements and test cases.
- Completed LECG Report - consistency of market software solutions with MRTU Tariff and LMP pricing methodology.
- PWC Audit Opinion - settlements software calculates quantities and prices, in all material respects, in compliance with MRTU Tariff.
- FERC 60-Day Informational Filing (Report includes status of remaining activities & milestones).

## Appendix A: Update 2 Market Simulation Exit Criteria

	Reference Number	Type	Criteria
<b>CAISO Integrated Market Simulation Update 2</b>			
<b>IMS Update 2</b>	U2.01	Exit from Update 2	Simulation concludes without any open Critical and Very High variances. At least one meeting will be scheduled with Market Participants as a collaborative effort to review all variances prior to exiting IMS U2. High variances will be repaired and tested when possible while remaining High variances will be mitigated.
	U2.02	Exit from Update 2	CASIO will make all externally facing MRTU applications available for 100% of SCs to participate.
	U2.03	Exit from Update 2	CASIO will publish the daily list of SCs participating in IMS U2 for SIBR, BAPI, and CMRI for Market Participants to evaluate what SCs that have an obligation to bid resources but are not participating.
	U2.04	Exit from Update 2	CAISO publishes Settlement Statements and all supporting Settlements documentation including Configuration Guides and Bill Determinants for each Trade Date within TD+15 BD for each initial settlement statement through 2/8/2008* for each SC that participated in IMS U2 consistent with the respective Sac's participation.
	U2.05	Exit from Update 2	CAISO publishes Settlement Statements and all supporting Settlements documentation for Month End within TD + 25 BD for each SC that participated in IMS U2 consistent with the respective SC's participation.
	U2.06	Exit from Update 2	CAISO publishes Settlement Statements and all supporting Settlements documentation for CRR Auction for each SC that participated in IMS U2 consistent with the respective SC's participation.
	U2.07	Exit from Update 2	CAISO publishes accurate Invoices and supporting Settlements documentation for a Trade Month based on respective monthly Settlement Statements for each SC that participated in IMS U2.
	U2.08	Exit from Update 2	Day Ahead market successfully solves and results are published by 1:00 PM for 7 consecutive trading days during IMS U2 Semi-Structured testing
	U2.09	Exit from Update 2	No more than 5 consecutive 5 minute RT cases fail for 7 consecutive trading days during IMS U2 Semi-Structured testing (except in scenarios specifically testing RT failure and contingency plans or during planned outages for patch deployment). RT case failure means no dispatchable solution was reached; does not include DC solutions or solutions achieved through constraint relaxation.

\* Dates were based on IMS Update 2 beginning on January 2, 2008. The dates will need to be revised based on the new start date of the market simulation.

	U2.10	Exit from Update 2	Market Portal, SIBR, CMRI, OASIS, SLIC, ADS, BAPI, OMAR, and Programmatic Interfaces are available 97.5% of the time during the last 4 weeks of IMS U2 (other than periods of disaster recovery testing and backup and restore testing).
IMS Update 2	U2.11	Exit from Update 2	Backup and restore plans executed for 100% of the Market Simulation impacted servers deemed operational critical during normal operating hours.
	U2.12	Exit from Update 2	Archiving and data retention plans for all Market Simulation systems performed for each day of phase.
	U2.13	Exit from Update 2	Quality of solution to be 90% AC solution over the last 4 weeks of IMS U2.
	U2.14	Exit from Update 2	Every Charge Type must be exercised and valid in accordance with the BPM for Settlements & Billing and CAISO Tariff during IMS Update 1 or 2 between 12/10/2007 and 2/8/2008* Trade Dates but not every SC will necessarily be assessed the Charge Type
	U2.15	Exit from Update 2	All scenarios agreed to by Market Participants and CAISO will be successfully completed and MPs affirm completion in accordance with Scenario Dashboard.
	U2.16	Exit from Update 2	Market results are based on market inputs and consistent across external markets application
	U2.17	Exit from Update 2	Patches in CAISO systems to address Critical ,Very High, or High variances that require market participant software changes will be fully tested, installed by CAISO and validated by participants prior to exiting IMS U2.
	U2.18	Exit from Update 2	HASP Market successfully solves and publishes within timing guidelines 95% of the time for 7 consecutive trading days during Update 2 Semi-Structured testing
	U2.19	Exit from Update 2	Real-Time Market successfully solves and publishes within timing guidelines 95% of the time for 7 consecutive trading days during Update 2 Semi-Structured testing

## Appendix B: December Readiness Criteria High Level Overview

The following provides the overall status of the MRTU Readiness Criteria as of December 31, 2007.

- Total Number of MRTU Readiness Criteria: **33**
- # of Completed Readiness Criteria: **6**
- # of “On Track” Readiness Criteria: **18**
- # of “Not On Track” Readiness Criteria: **9** – Mitigation Plans identified for December Report

### 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.

Readiness Criterion	Status	Comments
<b>BPM – 1</b>		As of November 2007, all BPMs have met FERC Technical Conference directives and been posted on the CAISO website.
<b>CRR – 1</b>		As of April 2007, the CAISO has completed the CRR Dry Run in Market Simulation.
<b>CRR-2</b>		Testing and Validation of all CRR Broadcast Services for Settlements is planned to occur with SaMC during IMS Update 2.
<b>CRR-3</b>		As of 12/20/07, the annual Auction Process was completed. Monthly Allocation Processes are scheduled to begin in February
<b>CRR-4</b>		The CAISO made its compliance filing with the FERC's Long-Term Transmission Rights Final Rule on January 29, 2007.
<b>ENT-1</b>		All enterprise systems are in the verification process to ensure that they will meet availability requirements.
<b>ECA-1</b>		The Control Area Scheduler went live on 2/13/07 at 10:00 PM and all tags applicable to CAISO from Partisans have been linked to CAS.
<b>GO-1</b>		The 4 major Operating Procedures are still in review and feedback is needed from various sources (Legal, Market Operations).
<b>INF-1</b>		Monitoring tools and production environment are available to support Market Simulation.
<b>LMP Testing</b>		Analysis Track Testing is delayed due to issues stemming from overall variance resolution and software patching.
<b>LMP PRD</b>		A series of Dry Runs were conducted in December 2007. This criterion will be marked "On Track" pending operational success of the tool in IMS Update 2.
<b>MKS-1</b>		Continuous runs of this scenario will occur in Update 2 and the CAISO will post the results once a successful run has been achieved.
<b>MKS-2</b>		The development of Post-Implementation Criteria is in progress.
<b>MS-1</b>		Application Monitoring of the applicable systems are in progress. All Hardware and monitoring tools have been deployed to measure availability of the systems during PPS.
<b>MM-Study 1</b>		AS if 12/19/07, the third set of CPA reports were posted on the CAISO website. The final set will be published one month prior to Go-Live.
<b>MM-Study 2</b>		Analysis of the potential LPMP deficiency showed that it was not a valid concern. Report on the LMPM deficiency can be found on the CAISO website.

Readiness Criterion	Status	Comments
<b>SIM-1</b>		IMS Update 1 concluded on 12/21/07.
<b>MOD-1</b>		Planning for the simultaneous update of the FMN is in progress
<b>ORG-1</b>		A Go-Live checklist of all remaining activities were created to ensure that Core Business Units are On Track by January 2008.
<b>ORG-2</b>		During the 11/30/07 Readiness Assessments, it was revealed that all non-Core Business Units are on track.
<b>ORG-3</b>		The EDR is not available to DMM. Testing and refining of monitoring metrics and processes behind schedule due to delays in EDR development
<b>PRT-1</b>		The MRTU Final Assessment is scheduled to begin in February 2008.
<b>PRT-2</b>		As of 1/4/08, all Very High and Critical issues reported during IMS Update 1 have been resolved.
<b>REG-1</b>		Extensions from the August 3 <sup>rd</sup> filing and additional substantive and non-substantive compliance and 205 filing are on track to be completed by Jan 08.
<b>SE-1</b>		As of 6/30/07, the State Estimator has meet all stipulations of this Readiness Criterion.
<b>STL-1</b>		Revised Settlements BPM have been posted on the CAISO website. Audit of the SaMC software has begun and scheduled to complete by end of February.
<b>STL-2</b>		Charge types have been rolled out during Update 1 and will continue to be rolled out into Update 2 of IMS.
<b>STL-3</b>		At the conclusion of IMS Update 1, 28 Charge Types have been validated from Bid to Bill.
<b>TECH-1</b>		Operational Readiness Testing is in progress.
<b>TST – 1</b>		Additional Performance Testing is required prior to the start of Update 2 to further tune the MRTU systems and address unresolved issues.
<b>TST-2</b>		Initial phase of Integration Test for Update 2 has been completed. The CAISO will continue Integration Testing prior to the start of IMS Update 2.
<b>BUS-BA-1</b>		All systems are in review by the Business Units.
<b>BUS-BA -2</b>		The CAISO is in the process of gathering all Readiness Certification information and will provide a draft copy for MP's comments on January 14 <sup>th</sup> .

## 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 14<sup>th</sup> day of January 2008.

**/s/ Susan Montana**

Susan Montana