



California Independent  
System Operator Corporation

May 5, 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 May 2008 Status Report of the California Independent System Operator Corporation.

Respectfully submitted,

**/s/ Sidney Mannheim Davies**

Sidney Mannheim Davies  
The California Independent System  
Operator Corporation  
151 Blue Ravine Road  
Folsom, CA 95630

Attorneys for the California Independent  
System Operator Corporation



Update 2 (IMS-U2) due to system stability issues and that the delay of IMS-U2 would affect the previously proposed Go Live date of March 31, 2008. As reported in the March 2008 MRTU Status Report, the CAISO commenced IMS-U2 on February 19, 2008. As noted in the April 2008 MRTU Status Report, the CAISO paused IMS-U2 after five weeks of continuous simulation in order to load the remaining MRTU “Go Live” functionality. The CAISO resumed IMS-U2 on April 7, 2008 as scheduled and has met planned objectives to date. Currently IMS-U2 is operating in a “semi-structured” phase with full scenario testing scheduled to begin on May 12.

The CAISO is on track for a fall 2008 implementation, but will not announce a new date until Market Participants have an opportunity to participate in scenario testing and provide feedback to CAISO management. The target date for discussion of a new MRTU Go Live date is the July 9-10 Board of Governors’ meeting. The attached report is now calibrated for fall 2008 MRTU Go Live date.

Respectfully submitted,

**/s/ Sidney Mannheim Davies**

Sidney Mannheim Davies

Counsel for the California Independent  
System Operator Corporation

Dated: May 5, 2008

**ATTACHMENT**

**Market Redesign and Technology Upgrade**

**FERC Report**

**May 5, 2008**

# **Market Redesign and Technology Upgrade**

## **FERC Report**

**May 5, 2008**

## **Executive Summary:**

This report is an update to the April 7, 2008 report of the accomplishments of, and provides the status for, the Market Redesign and Technology Upgrade (“MRTU”) leading up to May 2008. This status report will provide the Federal Energy Regulatory Commission (“Commission”) with additional information supporting the California Independent System Operator’s (“CAISO”) efforts to prepare itself and its Market Participants to commence MRTU operations. The highlights for the month include:

- Integrated Market Simulation - Update 2 (“IMS Update 2”) resumed with the remaining MRTU functionality on April 7, 2008 after a two week pause in simulation.
  - Objectives were met during the first week for Super Structured testing
  - Objectives were met during the second week for Structured Testing
  - Simulation is currently in the Semi-Structured phase with scenario testing planned to begin on May 12<sup>th</sup>
- CAISO is anticipating a Go-Live date of October 1, 2008
- Readiness activities continued throughout the month.

## Overall Dashboard

The following dashboard outlines the current status for Business Units, Market Participants and the MRTU Program Management for the components People, Process, and Technology at the time the report was filed.

**Please Note:** The overall program status is based on a Post Summer Go-Live date. The status provided for the CAISO Business Units is as of April 2008. The status provided for the Market Participants People and Processes is as of September 2007. The CAISO continues to work with Market Participants through touchpoint updates and will re-evaluate readiness after the resumption of Update 2 and participants have sufficient ability to test the remaining functionality. The CAISO anticipates that an assessment will be conducted in June/July 2008. Although progress has been made, the CAISO will continue to further assess these areas throughout IMS U2. 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 Post Summer Go-Live Trade Date. Contingency maintained, but at risk

 = Delay, will impact program delivery and Post Summer Go-Live Trade Date. Use of contingency funds

### Technology/Testing Readiness:

Technology for both Core and Non-Core Business Units remains “Yellow” due to the delays in fully integrating EMS, charge code validation and Load and Performance testing. CAISO plans to mitigate these delays in May by integrating EMS into the Update 2 environment, introducing vendor deliveries which will allow for further charge code validation and continuing Load and Performance testing.

Integrated Market Simulation Update 2 (“IMS U2”) resumed on Monday, April 7<sup>th</sup> for “Super Structured” Market Simulation. Market Simulation objectives were met, so the Market

Simulation progressed to the “Structured” simulation phase on Monday, April 14<sup>th</sup>, and subsequently to “Semi-Structured” simulation on Monday, April 21<sup>st</sup>.

Semi-Structured simulation will continue through May 12<sup>th</sup> and will be followed by the following phases through MRTU Go-Live:

- **Scenario Testing:** Market Participants continue to put in bids and trades based on the operational scenario for the day and for the hours of the specific scenario testing for that day
  - Round 1: First pass of all defined scenarios
  - Round 2: Retest effort if scenario does not pass
- **Market Participant Business Strategy Testing (Pre-Production):** CAISO will continue to run based on the operational baseline for the day and Market Participants put in bids and trades
- **Parallel Operations:** Market Participants put in bids and trades consistent with the forecast, generator availability, and trades that they are physically making in non-MRTU production that day (i.e. mirror how the participants will actually meet its load and resource configuration)

MRTU Schedule	
Current Period	Trend
	

MRTU Budget	
Current Period	Trend
	

**Tracking Delay: 0 weeks**  
**Critical Path Items:** Vendor Delivery, Integration Testing, Market Simulation Schedule  
*\*Based on approved Post Summer Go-Live*

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

- IMS Update 2 resumed with the remaining MRTU functionality on April 7, 2008. Super-Structured and Structured testing phases have been completed and Semi-Structured Simulation is in progress.
- Integration testing and End to End testing of remaining functionality and applications variances in progress.
- Internal Scenario and business process testing is in progress

- PMO has been allocated contingency to extend key resources and vendor support through the summer.
- PMO has extended key resources based on the resources planning effort through September 2008 and continues to evaluate change requests based on the approved budget.

	Complete
	No Delays
	Delay, but will not impact Post Summer go-live date. Contingency maintained, but at risk
	Delay, will impact program delivery and a Post Summer Go-Live Date. Use of contingency funds

**Key Accomplishments:**

- **FIT/ETE Testing – IMS Update 2:** Execution is 100% completed; 80% pass rate
- **Bid-to-Bill Testing of Standard Charge Codes:** Execution is 74% complete; 61% pass rate
- **Bid-to-Bill Testing of Charge Codes associated with Scenarios:** Execution is 19% complete; 6% pass rate. Testing is dependant on scenario testing.

**Key Issues:**

- **Vendor Delivery:** Variance turn-around time continues to be a risk; the program is prioritizing variances and risk largely decreases by end of May
- **Market Systems:** Final integration of applications, Quality of Solution, performance, and stability testing on going with positive results, but more testing needed to validate readiness for Go-Live; risk decreases in May timeframe
- **Settlements:** All Charge Types have been delivered and unit-tested, but significant validation remains (33/123 validated) ; risk decreases once upstream variances are corrected and all scenarios have been run to prove out charge codes to participants – anticipate a reduction in this risk by late June
- **Market Simulation Experience:** Since the restart of the Market Simulation on 4/7/08, system performance has improved as has our ability to consistently meet or exceed the Day-Ahead Market timeline.

**Readiness:**

The CAISO Business Units and External Market Participants are continuing their readiness activities. The following dashboard outlines the status for Internal Readiness and External Readiness.

**Please Note:**

*The overall program status is the same as the April FERC Report pending determination of a revised Go-Live date. When viewing the Dashboard below, please note that the CAISO Business Units, were assessed based off a checkpoint date of March 2008 and are tracking to internal readiness by Post Summer. Although, the Market Participants' People, Process, Technology is as of a September 2007 assessment, the CAISO continues to work with Market Participants on a daily basis through formal touchpoint updates. The CAISO anticipates that an External Readiness assessment will be conducted in June/July 2008. Although, progress has been made, the CAISO will continue to assess these areas during IMS U2. In each case, the status provided is reflective of the lowest common denominator (score) for each category*

Internal Readiness	
Current Period	Trend
	

External Readiness	
Current Period	Trend
	

- Completed all go-live activities being tracked toward internal goal of May 1<sup>st</sup>, 2008.
- Continue to track to final go-live, checklists of remaining activities by Business Units.
- Completed End-to-End business process testing for critical MRTU processes. Working through test results in preparation for process sign off.
- Operators continue to execute Scenario testing.

- IMS Update 2 was paused on March 21<sup>st</sup> and resumed on April 7<sup>th</sup>.
- Continued Market Simulation support initiative to help prepare Participants.
- Participant Check Points/Follow Ups began in March to gauge IMS Update 2 participation and issues.
- Completed IMS Update 2 Functionality Touchpoint.
- Quick Response Team continues to address Participant issues.
- Preparing for Final Market Participant touchpoint and Assessment

	Complete
	No Delays
	Delay, but will not impact Post Summer go-live date. Contingency maintained, but at risk
	Delay, will impact program delivery and a Post Summer Go-Live Date. Use of contingency funds

#### Key Accomplishments:

##### CAISO Internal Business Unit Readiness

- Training:** CAISO Employees completed knowledge transfer activities. The final technical training courses are targeted for end of May. Scenario execution planning for Business Units began and started executing during end of February.
- To-Be Processes:** Completed the planning and prep work for the fourth and final phase of Process Walkthroughs. Tested processes during market simulation. Business Processes will continue to be refined based on the results from process testing and are now working toward Sign Off.
- Assessment of Readiness:** Business Units tracked major activities and issues toward a goal of May 1<sup>st</sup>, 2008. These activities have all been completed. The Business Units are involved in testing and planning specific business scenarios to execute as part of the final Go-Live Readiness Criteria.

##### External Readiness

- Integrated Market Simulation:** IMS Update 2 resumed on April 7<sup>th</sup> with two weeks of Super-Structured and Structured test phases (as defined earlier in this report). The Market selected SCs resumed On-Site testing on April 14<sup>th</sup> during the Structured testing phase. All agreed upon defined objectives needed to exit Super-Structured and Structured testing were met. As such, Semi-Structured testing began on April 21<sup>st</sup>.

During this phase, Market Participants may submit varied market inputs more reflected of their market portfolios. Initial testing has seen some success in meeting the publication timelines; however, issues with data transfer has been encountered. These issues are receiving the highest priority for identification of cause and resolution.

- **Training:** Recognizing that the majority of the formal CAISO training has been presented to the market and available on DVDs or on the CAISO website, the CAISO focused on the development and presentation of a series of refresher training courses. These courses involved: Day Ahead and Real Time Scheduling Activities and Bidding and Scheduling Resource Adequacy (2 sessions). In addition, more focused training on the Metered Subsystem activities has been developed and will be presented in May. All classes have received strong attendance and high marks from the Market Participants.
- **Assessment of Readiness:** Participation in IMS Update 2 has been consistently high; however a small number of Scheduling Coordinators have not participated in IMS U2. The CAISO contacted these SCs with the intention to encourage their participation in IMS Update 2 and to identify any issues or gaps that are preventing the Scheduling Coordinators from participating in Market Simulation. Issues identified by SCs during these Touchpoints have been addressed. Additionally, the CAISO initiated an IMS Update 2 Functionality and Charge Code Touchpoint for all Scheduling Coordinators on March 25<sup>th</sup> to gain a better understanding of the Scheduling Coordinators' market simulation experience. This Touchpoint concluded on April 14<sup>th</sup> with a 41% response rate from the Scheduling Coordinators that participated in the first 5 weeks of IMS Update 2. Results from this Touchpoint are being compiled. The CAISO will continue active communication with the Market Participant, including two daily calls and an open phone bridge during IMS Update 2 testing. A Final Assessment will be completed 60 days prior to Go-Live.
- **Quick Response Team:** The CAISO continues to work on issues identified during Market Simulation. Significant issues are being addressed immediately. Frequent communications of issues, issue resolutions, and retesting are occurring with the Market Participants and their vendors.
- **On-Site Testing:** With the restart of IMS Update 2, the Market selected Scheduling Coordinators returned to the CAISO at the start of Structured Testing on April 14<sup>th</sup>. The CAISO will continue with the On-Site testing as long as the Market Participants and the CAISO continue to gain value from the effort.

**Risks and Mitigations:**

Risks and Mitigations	
<b>Technology/Testing</b>	<ul style="list-style-type: none"> <li>▪ <b>High Availability</b> for the IMS Update 2 environment is not yet in place. Mitigation: Plans to implement high availability have been developed, and implementation is scheduled over the next few months.</li> <li>▪ <b>Application and Infrastructure Monitoring</b> in the IMS U2 environment has been enhanced, but additional application level monitoring is still being developed. Mitigation: IT will continue to work with the infrastructure team and application owners to continue to refine monitors, alerts, and the communication process</li> </ul>

	<p>surrounding them.</p> <ul style="list-style-type: none"> <li>▪ <b>System Stability and Performance</b> – The Day-Ahead and Real-Time systems have been running consistently and the vendor has made strides with application performance. CAISO continues to evaluate work flow processes to determine if additional performance tuning can be done.</li> </ul>
<b>Business Units</b>	<ul style="list-style-type: none"> <li>▪ <b>Core Business Units</b> – CAISO established and met an internal readiness date of May 1<sup>st</sup> that the CAISO people, processes and applications are ready. Ongoing monitoring of Business Unit Readiness will continue through Go-Live. Common risk/issue 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. For the common risk/issue areas highlighted above, as well as those unique to the Business Unit risks/issues a Go-Live checklist is being used to track the Business Units to completion and raise issues on a weekly basis.</li> <li>▪ <b>Non-Core Business Units</b> – Ongoing monitoring of Business Unit Readiness for Non-Core Business Units reveals that all people and process are on track, but certain systems still need to be tested by the users during completion of Business Process End-to-End Testing. The Readiness Team will continue to work closely with the applicable Business Units, Program Management and Testing Team to complete the remaining Go-Live activities and deliverables. Activities include: continuing application testing, Signing off on End-to-End business processes, finalizing transition, and ensuring that all deliverables are completed and signed-off.</li> </ul>
<b>Market Participants</b>	<p>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, complete their internal training, and validate Settlement Charge Codes. With the restart of IMS Update 2, the CAISO continues to do the following:</p> <ul style="list-style-type: none"> <li>▪ Conduct weekly Settlement Workshop for discussion of settlement issues and to discuss validation of Charge Codes in IMS Update 2.</li> <li>▪ Ensure the ability for Market Participants to provide their own bids during Market Simulation; which began in the Semi-Structure phase</li> <li>▪ The Quick Response Team will continue with their objectives until Go-Live. Retest of issues are on-going to assure that issues have been fixed and closed.</li> <li>▪ Market Participant requested scenarios will be tested during</li> </ul>

	<p>Market Simulation.</p> <ul style="list-style-type: none"><li>▪ 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.</li><li>▪ Continue with the scheduled meetings and workshops (i.e.: monthly MRTU Implementation Workshops, weekly SIUG and SaMC meetings.)</li><li>▪ Provide Onsite Testing and support at the CAISO during IMS U2 with specific Market Participant selected Scheduling Coordinators.</li><li>▪ Review Touchpoint results during IMS Update 2 to gauge MPs' experience with Market Simulation and identify action items that the CAISO can take to ensure an effective Market Simulation.</li><li>▪ Track SCs' Market Simulation activities by system (i.e. SIBR, CMRI, OASIS, BAPI). If SCs are identified as not participating, the CAISO will contact them to discuss the reason why.</li></ul>
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**Key Activities and Next Steps:**

- Begin Market Participant Scenario testing in IMS Update 2 with final MRTU functionality.
- The Quick Response Team will continue to address Participant issues in IMS Update 2.
- Continue analyzing and taking appropriate corrective actions to resolve Market Participant submitted market simulation issues. Communicate status of issues and begin retesting of the condition when appropriate to ensure resolution has been achieved.
- Prepare for and schedule External Readiness Assessment Touchpoint to take place in mid-June.
- Completion of SAIC System Certification and PwC Audit Opinion is contingent on Go-Live date.
- FERC Informational Filing 60-Days in advance of Go-Live (report will include status of remaining activities & milestones).

## Readiness Criteria High Level Overview: May Status Report

The following shows the overall status of the MRTU Readiness Criteria as of April 30, 2008.

### Total Number of MRTU Readiness Criteria: 33

- # of Completed Readiness Criteria: 7
- # of "On Track" Readiness Criteria: 21
- # of "Not On Track" Readiness Criteria: 5

### April Status Changes:

- # of Readiness Criteria that have changed status from Orange to Purple: 1
  - The following criteria changed status from Orange to Purple:
    - ORG- 1
- # of Readiness Criteria that have changed status from Orange to Blue: 0
- # of Readiness Criteria that have changed status from Purple to Orange: 1
  - The following criteria changed status from Purple to Orange:
    - MOD-1
- # of Readiness Criteria that have changed status from Purple to Blue: 0

\*Only status change on parent criteria are counted in these statistics. Any status changes on sub-criteria are not counted.

### 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>Completed Readiness Criteria</b>		
<b>BPM – 1</b>	B	As of November 2007, all BPMs have met FERC directives and have been posted on the CAISO website.
<b>CRR – 1</b>	B	As of April 2007, the CAISO has completed the CRR Dry Run in Market Simulation.
<b>CRR-4</b>	B	The CAISO made its compliance filing with the FERC's Long-Term Transmission Rights Final Rule on January 29, 2007.
<b>ECA-1</b>	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>MM-Study 2</b>	B	Analysis of the potential LMPM deficiency showed that it was not a valid concern. Report on the LMPM deficiency can be found on the CAISO website.
<b>SE-1</b>	B	As of 6/30/07, the State Estimator has meet all stipulations of this Readiness Criterion.
<b>TST-1</b>	B	Performance Testing for IMS Update 2 has been completed and passed QRB Review.
<b>“On Track” Readiness Criteria</b>		
<b>CRR-2</b>	P	CRR Broadcast Services are currently in Integration Test for IMS Update 2.
<b>CRR-3</b>	P	As of 12/20/07, the annual Auction Process was completed. The timeline for the monthly allocation process is being reevaluated due to the changes in the MRTU schedule.
<b>ENT-1</b>	P	All enterprise systems are in the verification process to ensure that they will meet availability requirements.
<b>GO-1</b>	P	All Procedures have been completed. The CAISO is On Track to post these procedures 1 day prior to MRTU Go-Live.
<b>INF-1</b>	P	Monitoring tools and production environment are available to support Market Simulation.
<b>LMP PRD</b>	P	The CAISO has completed a tool for the DAM and is completing a draft process that will be tested by 5/1/08. Regarding the Real-time process, the CAISO has recently obtained draft code from LECG for the 15-minute commitment, and is still waiting on code for the 5-minute dispatch. It is anticipated that the real-time validation tool will be completed by 7/1.
<b>MKS-1</b>	P	Continuous runs of this scenario will occur in Update 2 and the CAISO will post the results once a successful run has been achieved.

Readiness Criterion	Status	Comments
<b>“On Track” Readiness Criteria</b>		
<b>MKS-2</b>	P	The CAISO is in the final stages of finalizing the list of reporting metrics for the Post Implementation quarterly report. This item will be “Complete” after it is filed with FERC.
<b>MM-Study 1</b>	P	As of 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>MS-1</b>	P	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>ORG-1</b>	P	Business Units are on track for the 5/1 corporate goal and are on track for Go-Live.
<b>ORG-2</b>	P	Continued tracking the remaining activities and deliverables for all Business Units.
<b>PRT-1</b>	P	The CAISO is realigning the MRTU Final Assessments with the overall MRTU schedule. Once a Go-Live date has been determined, the CAISO will begin scheduling Final Assessments with Market Participants.
<b>PRT-2</b>	P	All Critical and Very High issues in IMS Update 2 are being resolved as they arise.
<b>REG-1</b>	P	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 90-60 days prior to MRTU Go-Live.
<b>STL-1</b>	P	Revised Settlements BPM have been posted on the CAISO website. Audit of the SaMC software has begun and scheduled to complete by end of IMS U2.
<b>SIM - 1</b>	P	IMS Update 2 resumed on April 7 <sup>th</sup> .
<b>TECH-1</b>	P	Operational Readiness Testing is in progress.
<b>TST- 2</b>	P	Integration testing continues for additional functionality.
<b>BUS-BA-1</b>	P	Some MRTU systems have been transitioned to the Business Units. The remaining MRTU systems are in different stages of test and review. Functional requirements are being reviewed with the Business Units.
<b>BUS-BA -2</b>	P	Due to the changes in the MRTU schedule, the CAISO did not file a 60 Day Readiness Certification in January. The CAISO will realign the 60 Day Certification filing with the new Go-Live date once it has been established.

Readiness Criterion	Status	Comments
<b>“Not On Track” Readiness Criteria</b>		
<b>MOD-1</b>		Development of the procedures for the simultaneous update of the FNM required for MOD – 1.2, is in progress, however, vendor delivery of the process is delayed. The CAISO is working with the vendor to finalize the process and promote the FNM model in IMS Update 2. This criteria will be marked as On Track once the procedure for the simultaneous update of the FNM has been finalized.
<b>LMP Testing</b>		LMP validation testing is focused in the controlled test environment thus, progress of LMP validation within the Market Simulation environment is delayed.
<b>ORG-3</b>		The EDR is not available to DMM. Testing and refining of monitoring metrics and processes are behind schedule due to delays in EDR development.
<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, 29 Charge Types have been validated from Bid to Bill.

## **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 5th day of May 2008.

**/s/ Anna Pascuzzo**

Anna Pascuzzo