



California Independent  
System Operator Corporation

April 7, 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 April 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



Market Simulation – Update 2 (IMS-U2) due to system stability issues and indicated 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. The IMS Update 2 is now paused after five weeks of continuous simulation so that the remaining MRTU “Go Live” functionality can be added. The CAISO resumed IMS-U2 on April 7, 2008.

Although the CAISO anticipated that it might be in a position to announce a new date by late March 2008, CAISO management has determined that a specific new date will not be announced until Market Participants have an opportunity to test the updated MRTU functionality 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. This is consistent with CEO Yakout Mansour’s announcement at the March 26, 2008 Board of Governors meetings that the MRTU Go Live date will not be before summer 2008. The attached report is now calibrated for a post summer MRTU Go Live date.

Respectfully submitted,

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

Counsel for the California Independent  
System Operator Corporation

Dated: April 7, 2008

**ATTACHMENT**

**Market Redesign and Technology Upgrade**

**FERC Report**

**April 7, 2008**

# **Market Redesign and Technology Upgrade**

## **FERC Report**

**April 7, 2008**

## **Executive Summary:**

This report is an update to the March 3, 2008 report of the accomplishments of, and provides the status for, the Market Redesign and Technology Upgrade (“MRTU”) for March 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”) paused on March 21 after five weeks of simulation.
  - IMS Update 2 began with gradual testing with 11 Participants participating in on-site testing at CAISO and an additional 51 Participants participating off-site.
  - 71% of Scheduling Coordinators, 93% of Load and 100% of Generation participated in the simulation
  - IMS Update 2 resumed with the remaining MRTU functionality on April 7, 2008
- The MRTU Go Live date will be post-summer; however a specific date has yet to be set. The CAISO will announce a new date when:
  - Market Participants have had an opportunity to test the MRTU functionality.
  - Market Participants have provided feedback to CAISO management.The target date for this discussion is the CAISO Board meeting on July 9-10<sup>th</sup>.
- 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 March 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 “touch-point” 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:

Integration Market Simulation Update 2 (“IMS Update 2”) paused on Friday, March, 21<sup>st</sup>. to allow for the additional integration of the remaining applications and variance fixes. IMS Update 2 resumed with the remaining functionality on April 7<sup>th</sup>.

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 initially started on February 19, integrating FERC changes for the core Market Systems and Legacy applications and paused on March 21.
- Integration testing and End to End testing of remaining applications and functionality is in progress.
- IMS Update 2 resumed with the remaining MRTU functionality on April 7, 2008.

- PMO has been allocated \$4.5 million of the contingency to date.
- 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 Testing – IMS Update 2:** Execution is 52% complete.
- **End-to-End (“ETE”) – IMS Update 2:** Execution is 70% completed.
- **Bid-to-Bill Testing of Daily, Monthly and Pass-through Bills:** Execution is 37% complete.
- **Bid-to-Bill Testing of Charge Codes associated with Scenarios:** Testing is waiting for scenario testing to be initiated.

**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 (31/129 validated) ; risk decreases once upstream variances are

corrected and all scenarios have been run to prove out charge types to participants – anticipate a reduction in this risk by late June

- **Market Simulation Experience:** System performance has improved over the past few weeks, but consistently meeting the Day-Ahead Market timeline had been difficult prior to the recent performance tuning. In addition, a post-summer start will provide additional testing time for participants.

#### IMS Update 2 Next Steps:

With the resumption of Update 2 on April 7<sup>th</sup>, CAISO is implementing a four phased approach to testing. Similar to the February initial start, we are having participants test all of the systems, both GUI and API. The four phases proposed are:

- **Super-Structured:** CAISO submits bids and participants can check the downstream systems (ADS, CMRI and OASIS);
- **Structured:** Scheduling Coordinators (SC) submit bid set provided by CAISO, this will allow for checking SIBR;
- **Semi-Structured:** SC submit their own bid sets based on system conditions and guidelines defined by CAISO; and
- **Scenario Testing:** Continue Semi-Structured while running specific operational scenarios.

In addition, CAISO is endeavoring to meet specific objectives prior to moving between phases:

- Day Ahead Market successfully solves and publishes by 2pm for 4 out of 5 days (not necessarily consecutive).
- Market Participants are able to successfully connect to SIBR, CMRI, OASIS, SLIC, ADS, and BAPI UIs and APIs based on access requested in Application Access Request Form (AARF).
- Data is traceable and consistent across applications, as defined by the current scope.
- Real Time Market successfully solves and publishes 80% of the time.

Once these four objectives are met, then Structured Testing will begin. When we move to the Structured phase of testing, CAISO will endeavor to again meet the four objectives stated above and an additional fifth objective: SIBR UI and APIs available from 8 am – 12 noon with no SIBR downtime longer than 30 min/day for 4 out of 5 days (not necessarily consecutive) prior to moving to the next phase. Once the Structured phase is complete, the simulation will move to Semi-Structured testing. CAISO will again endeavor to meet the five objectives during Semi-Structured testing prior to moving forward with scenarios where participants will submit bids into SIBR consistent with any scenarios that are being tested that day.

**Readiness:**

As of March 25, 2008, 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 March 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 May 1, 2008. The Market Participants' People, Process, Technology is as of a September 2007 assessment. The CAISO continues to work with Market Participants through "touch-point" updates and will be re-evaluated 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 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
	

- Tracking to final go-live checklists of remaining activities by Business Units.
- Continued planning of complete End-to-End business process testing of critical MRTU processes. Working through details to begin execution during the month of April
- 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.
- IMS Update 2 Functionality Touchpoint began on March 25.
- Quick Response Team continues to address Participant issues.
- Delivered Bid to Bill Session 6.

	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 Business Unit Readiness*

- **Training:** CAISO Employees continued with knowledge transfer. The final technical training courses are targeted for end of April/May. Scenario execution planning for Business Units began and started executing during end of February.
- **To-Be Processes:** Planning and prep work continues for the fourth and final phase of Process Walkthroughs and will test processes during market simulation. Business Processes will continue to be refined based on process testing and updates are in progress.
- **Assessment of Readiness:** For all Business Units, remaining activities are being tracked toward completion on a weekly basis. The Business Units are involved in testing and planning specific business scenarios to execute as part of the final Readiness Criteria.

### *Market Participant Readiness*

- **Integrated Market Simulation:** The approach for the first few weeks of IMS Update 2 was to methodically test the different systems, testing first the Graphical User Interface (GUI) and then the Application Programmatic Interface (API). With this approach, the CAISO and the Market Participants have been able to exercise increased functionality during market simulation. Issues have been identified and many of these issues have been resolved. After five weeks of gradual testing in IMS Update 2, the CAISO paused the Update 2 environment on March 21<sup>st</sup> to focus on addressing identified issues and implementing additional functionality. Participation in IMS Update 2 has been quite high with over 60 Scheduling Coordinators exercising their systems during testing.
- **Training:** Conducted Bid to Bill Session 6 on-site on March 11- 13. A new two hour training session was held on March 25<sup>th</sup> to provide refresher training for bidding activities between the Day Ahead and Real Time Markets. This specific training will be repeated at least twice in the next few weeks.
- **Assessment of Readiness:** Touchpoints are being conducted with Scheduling Coordinators that were not participating in IMS Update 2. This touchpoint is intended to gauge any issues/gaps that are preventing the Scheduling Coordinators from participating in Market Simulation. Additionally, the CAISO initiated a Functionality and Charge Code Touchpoint on March 25<sup>th</sup> to gain a better understanding of the Scheduling Coordinators' market simulation experience. The CAISO will continue active communication with the Market Participant and 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 start of IMS Update 2, 11 Scheduling Coordinators, selected by the overall Market Participants, have participated in testing at the CAISO's facilities and an additional 51 Participants participated off-site.
- **Feedback:** The CAISO has received positive feedback with this approach and is continuing this effort now that IMS Update 2 has resumed.

**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 IMS Update 2 has been enhanced. Mitigation: IT will continue to work with the infrastructure team and application owners to continue to refine monitors, alerts, and the communication process surrounding them.</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 publishing of Day-Ahead Markets by 1 PM. The vendor has made strides in the application performance, and additional patches have been received to meet the CAISO's performance requirements. CAISO is also evaluating the 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> – Ongoing monitoring of Business Unit Readiness reveals that not all Core Business Units are on track but are progressing closer as they work in Market Simulation. 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, and approach and completion of Business Process End-to-End Testing. 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: executing application testing, proving out End-to-End business processes, finalizing transition, and ensuring that all deliverables are completed and signed-off.</li> <li>▪ <b>5/1 Readiness</b> – CAISO has established an internal readiness date of May 1<sup>st</sup> that the CAISO people, processes and applications are ready to go.</li> </ul>

**Risks and Mitigations (continued)**

**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. During IMS Update 2, the CAISO continues to do the following to achieve an effective Market Simulation:

- Conduct an additional Settlement Workshop for Charge Codes in IMS Update 2 as soon as Charge Codes are validated.
- Ensure 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. Retest of issues will begin as soon as applicable.
- Market Participant Scenarios will be tested during 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 (i.e.: monthly MRTU Implementation Workshops, bi-weekly SIUG and SaMC meetings.)
- Provide Onsite Testing and support at the CAISO during IMS U2 with specific Scheduling Coordinators selected by the Market Participants.
- Conduct Touchpoints 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.
- 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.

**Key Activities and Next Steps:**

- Continue IMS Update 2 with final MRTU functionality.
- Completion of End to End Business Process testing.
- 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.
- Hold Participant Bid to Bill session and review remaining MRTU training, both internal and external.
- The MRTU Final Assessments will be scheduled during IMS Update 2 and completed 60 days prior to Go Live.
- Completion of SAIC System Certification, LECG Report 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: March Status 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.

The following shows the overall status of the MRTU Readiness Criteria as of March 31, 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

### March Status Changes:

- # of Readiness Criteria that have changed status from Orange to Purple: 2
  - The following criteria changed status from Orange to Purple:
    - LMP-PRD
    - GO-1
- # of Readiness Criteria that have changed status from Orange to Blue: 0
- # of Readiness Criteria that have changed status from Purple to Orange: 0
- # 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 change on sub-criteria are not counted.

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	Integration testing of all CRR Broadcast Services for Settlements is planned to occur with SaMC during 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	To date the following completed Grid Operating Procedures are as follows: -3 out of 4 Major Operating Procedures, 32 out of 32 Significant Operating Procedures, 46 out of 47 Minor Operating Procedures.
<b>INF-1</b>	P	Monitoring tools and production environment are available to support Market Simulation.
<b>LMP PRD</b>	P	The CAISO is currently converting the latest version of the LECG validation tool to work with Siemens database. In the meantime, the team is developing procedures to communicate pricing changes in Market Simulation.
<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 has developed a set of monitoring metrics to be used in the Post-Implementation evaluation.
<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>MOD-1</b>	P	Planning for the simultaneous update of the FMN is in progress.
<b>ORG-2</b>	P	Go-Live Checklist of all remaining activities and deliverables were created for all Business Units. Business Units are developing testing scenarios to prove out end to end processes and final application acceptance testing.
<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 began on 02/19/08 however, the environment was taken down on March 21 <sup>st</sup> to address identified issues and implement additional functionality. IMS Update 2 is scheduled to start 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. The CAISO is currently on track to complete testing for an IMS Update 2 restart date of April 7 <sup>th</sup> .
<b>BUS-BA-1</b>	P	All systems are in review by 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>LMP Testing</b>		The Day Ahead IFM software will undergo its comprehensive final validation stage beginning in early April 2008. In the meantime, variances found in the Real Time software validation are being resolved. The CAISO will release a report of this effort once critical track variances have been resolved.
<b>ORG-1</b>		Go-Live Checklist of all remaining activities and deliverables were created for all Business Units however, due to the Market Simulation schedule, certain activities are 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 7<sup>th</sup> day of April 2008.

**/s/ Anna Pascuzzo**  
Anna Pascuzzo