



California Independent  
System Operator Corporation

December 3, 2007

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 December 2007 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

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**California Independent System** ) **Docket No. ER06-615**  
**Operator Corporation** )  
 )

**DECEMBER 2007 STATUS REPORT OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation ("CAISO") respectfully submits this monthly progress report ("Report") in compliance with Paragraph 1415 of the Commission's September 21, 2006 "Order Conditionally Accepting The California Independent System Operator's Electric Tariff Filing To Reflect Market Redesign and Technology Upgrade," 116 FERC ¶ 61,274 (2006) ("September 21 Order"), issued in the above-referenced docket.

The September 21 Order requires the CAISO to file monthly reports concerning the progress in designing and implementing the CAISO's Market Redesign and Technology Upgrade ("MRTU") and, as required by P 1415 of the September 21 Order, on the CAISO's MRTU readiness program. The CAISO will continue to file this monthly report on the first Monday of the month through the implementation of MRTU, currently slated for March 31, 2008 following the California Board of Governors' August 17, 2007 decision, announced publicly on August 22, 2007, to extend the implementation date.

The monthly report contains two attachments: Attachment A includes the following elements as previously provided: (1) detailed timeline with the sequential and concurrent nature of the design elements; (2) cost estimates for

each element; (3) progress report; (4) accomplishments/milestones; and (5) planned activities<sup>1</sup>. Attachment B addresses the development of both the CAISO and market participant readiness criteria. The information contained in Attachment B reflects the current status of the CAISO's MRTU Readiness Program.<sup>2</sup>

Highlights related to MRTU implementation identified in Attachment A include: **(1) Settlements and Market Clearing (SaMC) Systems** – (a) Bid to Bill validation continuing on P2 and P3 charge types, and (b) working with AREVA to assess application upgrade from version 2.2.2 to 2.3; **(2) Integrated Forward Markets/Real-Time Nodal** – (a) continuing combined Site Acceptance Testing (SAT) for Coordinated Release (CR) 4 Bundle 1 and 1A; **(3) Market Quality Systems (MQS)** – (a) version 2.1 Factory Acceptance Testing (FAT) completed, and (b) version 2.0 installation into Update 2 environment completed; **(4) Master File Redesign (MFRD)** – (a) released Master File 19.11 to Market Simulation Update 1 environment, and (b) released Master File 23.2 to Update 2 to environment; **(5) Market Definition Service (MDS)** – final MDS release completed and integrated into Update 2 Integration Test environment; **(6) Testing** – (a) Functional Integration Testing (FIT), End-to-End, and Load and Performance testing for Update 2 in progress, and (b) continued EMS Integration

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<sup>1</sup> The Market Redesign and Technology Upgrade Program is comprised of seven major system projects – (1) Integrated Forward Markets/Real-Time Market/Full Network Model ("IFM/RTM/FNM"), (2) Scheduling Infrastructure Business Rules ("SIBR"), (3) Congestion Revenue Rights ("CRR"), (4) Settlements and Market Clearing ("SaMC"), (5) Legacy Systems, (6) Master File Redesign ("MFRD") and (7) Post Transaction Repository ("PTR").

<sup>2</sup> Documents relating to the CAISO's MRTU implementation and readiness activities, including the MRTU Readiness Criteria Dashboard posted on January 31, 2007, can be found at the following link: <http://www.aiso.com/docs/2005/06/21/2005062113583824742.html>.

testing; **(7) Full Network Model/State Estimator** – (a) Database 23 completed and promoted to Update 2 Integration Test environment; and **(8) Market Simulation** – (a) completed Release 3 Market Simulation, and (b) supporting Update 1 Market Simulation; **(9) SIBR** – worked on test planning for CR4 Plus FAT; and **(10) Infrastructure/Environment** – (a) supporting Update 1 Market Simulation and Update 2 Integration Test environment, and (2) building out Update 2 Fix-It environment and Training environment.

Highlights on status of readiness activities included in Attachment B: **(1) MRTU Working Groups** – continued supporting Participant Readiness Advisory Group, MRTU Implementation Workshops, and SaMC User Group and Systems Interface User Group; **(2) Market Participant Assessments** – (a) planning for Final Readiness Assessments underway; **(3) Market Participant Training** – (a) launched on-site Market Simulation support initiatives to help Market Participant better prepare for March 31, 2008, (b) launched and completed three weeks of Integrated Market Simulation – Update 1, (c) executed several detailed Scenarios during Market Simulation – Update 1 and are planned for Update 2, and (d) completed Sessions 12 and 13 Bid to Bill Market Participant training; and **(4) MRTU Training for CAISO Staff** – (a) conducted Internal Readiness Assessment and gathered deliverables for Implementation Phase, (b) continued resolution meetings for all open issues/gaps for Phase 3 Business Processes (15 processes), and (c) completed 5 (of 8) company-wide MRTU Business Process Walkthroughs of key Bid to Bill processes that are a result of MRTU.

Dated: December 3, 2007

Respectfully submitted,

**/s/ Sidney Mannheim Davies**

Sidney Mannheim Davies



Counsel for the California Independent  
System Operator Corporation



## ATTACHMENT A

Attachment A - FERC Status Report – December 2007





# Market Redesign and Technology Upgrade Budget and Schedule Report







December, 2007

MRTU Schedule	
Current Period	Trend
	
<p><b>Tracking Delay: 0 weeks</b>  <b>Critical Path Items: Vendor Delivery, Integration Testing, Market Simulation Schedule</b>  <i>*Based on approved 4/1/08 Go-Live Trade date</i></p>	

MRTU Budget	
Current Period	Trend
	
<p><b>Approved MRTU budget: \$189.223 M*</b>  <i>*Based on approved budget on 12/06</i></p>	

- Integrated Market Simulation (IMS) Update 1 began on 11/12 with connectivity testing and on 11/13 with full Market Simulation. Update 1 will consist of one week of structured testing, followed by 3 weeks of semi-structured testing. Semi-structured testing allows participants to submit their own bids and facilitates scenario testing.
- Integration test execution for Update 2 began integrating FERC changes plus the remaining MRTU and Legacy systems.
- IMS Update 2 is targeted to start on 12/17.
- Implementation Workshop and Settlements Charge Code Training were held on 11/14-11/16.
- PMO continues to process change requests and evaluate against approved budgets.
- PMO has begun to use the contingency but is within the total program budget of \$189.223M.

	 Delay, but will not impact 2/1/08 Go-Live Trade date.
	 Delay, will impact 2/1/08 Go-Live Trade date. Use of contingency funds.

	Variance less than +2 %		Situation has improved since last reporting period.
	Variance between +2 % and +6 %		No change since last reporting period.
	Variance over +6 %		Situation has deteriorated since last reporting period.



## MRTU Executive Overview

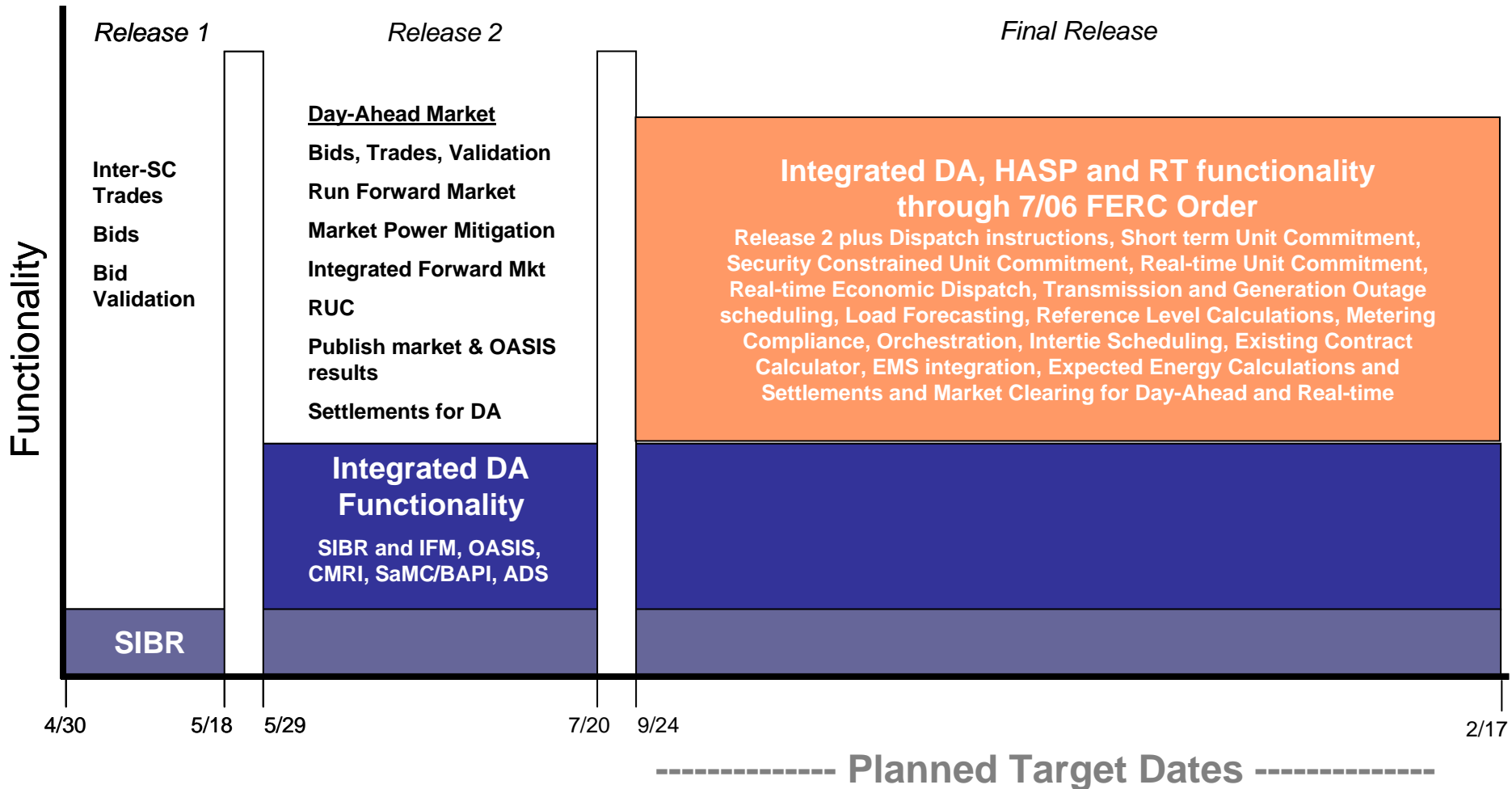
- The Integrated Market Simulation (IMS) Release 3 concluded on 11/9. The Market Simulation team continues to respond to participant issues and conduct briefing/debriefing calls. IMS Update 1 began on 11/13.
- The Readiness team sent out final Assessment Communication to SCs, finished work on October Touch Points, began internal education sessions, and conducted internal readiness checkpoints with Business users. The Training team held the Settlements Charge Code Workshop 11/15-11/16, posted four guidebooks, instructed the SCE Bid-to-Bill session and determined a January/February schedule for the remaining Siemens courses.
- The Testing team completed FIT and ETE testing for Update 1. Currently FIT, ETE and Load and Performance Test are in progress for Update 2, running the Day-Ahead and Real-Time Markets while integrating FERC Order changes and the remaining MRTU and Legacy systems into Update 2.

## Integrated Market Simulation Release 3

Seven weeks of MRTU Integrated Market Simulation (IMS Release 3) have been completed. Overall the participation by the market has been high and system availability and performance have for the most part met the targets, though exceptions are noted below. Market Participant progress has been hampered by slower than expected variance turnaround and issue resolution. The CAISO is addressing these needs by committing additional technical resources to address issue triage/resolution as well as providing limited onsite support where appropriate.

- More than 70 SCs participated, representing an average of 78 percent of the generation capacity in the ISO-controlled grid retrieving data. That means that most of the market is engaged in IMS, a very encouraging result.
- The Markets (Day-Ahead, HASP and Real-time) were available through the user interface 95 percent of the time when IMS was supported and 94 percent of the time through the Application-Program Interface (API)—better than the target availability of 85 percent. But, there have been issues with scheduling Inter-SC Trades and 24x7 system availability did not meet target of 98%.
- The Automated Dispatch System (ADS)—how market participants receive their real-time dispatches—was available 97 percent with a target of 98 percent. Also, total system availability (24x7) of the Scheduling Infrastructure Business Rules (SIBR) was 96 percent and the Business Associate Portal Interface (BAPI) 94% where the target was also 98 percent. The good news is during the support hours of 8 a.m. to 5 p.m., all applications met the 85 percent target availability.
- The Real-Time Market availability averaged 86 percent of the intervals, again higher than the target of 70 percent for the simulation. However, participants have noted that some market results were published late and that they have not been able to validate all of the settlements results yet.
- The market simulation ended with no “critical” issues remaining open (critical is defined as preventing most or all participants from moving forward), but three “very high” and 102 “high” issues were open (high is defined as requiring immediate attention and/or preventing some participants from moving forward). The ISO is working hard to resolve these issues and is deploying additional technical resources to reduce issue cycle time.

# IMS Scope and Schedule



## Accomplishments & Milestones

### Full Network Model/State Estimator

- DB 23 has been completed and promoted to the Update 2 Integration Test environment

### SaMC

- Bid to Bill validation continuing on P2 and P3 charge types
- Working with AREVA to assess application upgrade from 2.2.2 to 2.3

### Integrated Forward Markets/Real-Time Nodal

- CR4 Bundles 1 and 1A are continuing combined SAT testing

### Market Quality Systems

- V2.1 FAT is completed
- V2.0 installation into Update 2 environment complete

### SIBR

- Worked on test planning for CR4 Plus FAT

### MFRD

- Released MF 19.11 to Market Simulation Update 1 environment and MF 23.2 to Update 2 to environment

### MDS

- Final Release completed integrated in to Update 2 Integration test

### Testing

- FIT/ETE and Load and Performance testing for Update 2 is in progress
- Continued EMS Integration testing

### Market Simulation

- Completed Release 3 Market Simulation.
- Supporting Update 1 Market Simulation

### Infrastructure/Environment

- Supporting Update 1 Market Simulation and Update 2 Integration Test
- Building out Update 2 Fix-It environment and Training environment

## Planned Activities

### Full Network Model/State Estimator

- Complete DB23 for EMS and Markets
- Close out Gap issues
- Continue Analysis Track testing effort

### SaMC

- Continue Bid to Bill validation of remaining P3 charge types

### Integrated Forward Markets/Real-Time Nodal

- Complete Bundle 1 and 1A combined SAT and support Integration testing effort

### Market Quality Systems

- V2.1 SAT testing targeting 12/7 for completion
- Completed CR4 Web Services AIT testing

### SIBR

- Continue SIBR CR4 Plus SAT and targeting to complete by 12/21

### MFRD

- Begin MF changes for MF 23.2 release to IMS Update 2

### Testing

- Continue FIT/ETE testing for Update 2
- Continue L&P planning activities for Update 2

### Market Simulation

- Support IMS Update 1

### Infrastructure/Environment

- Complete Update 2 Fix-It Environment

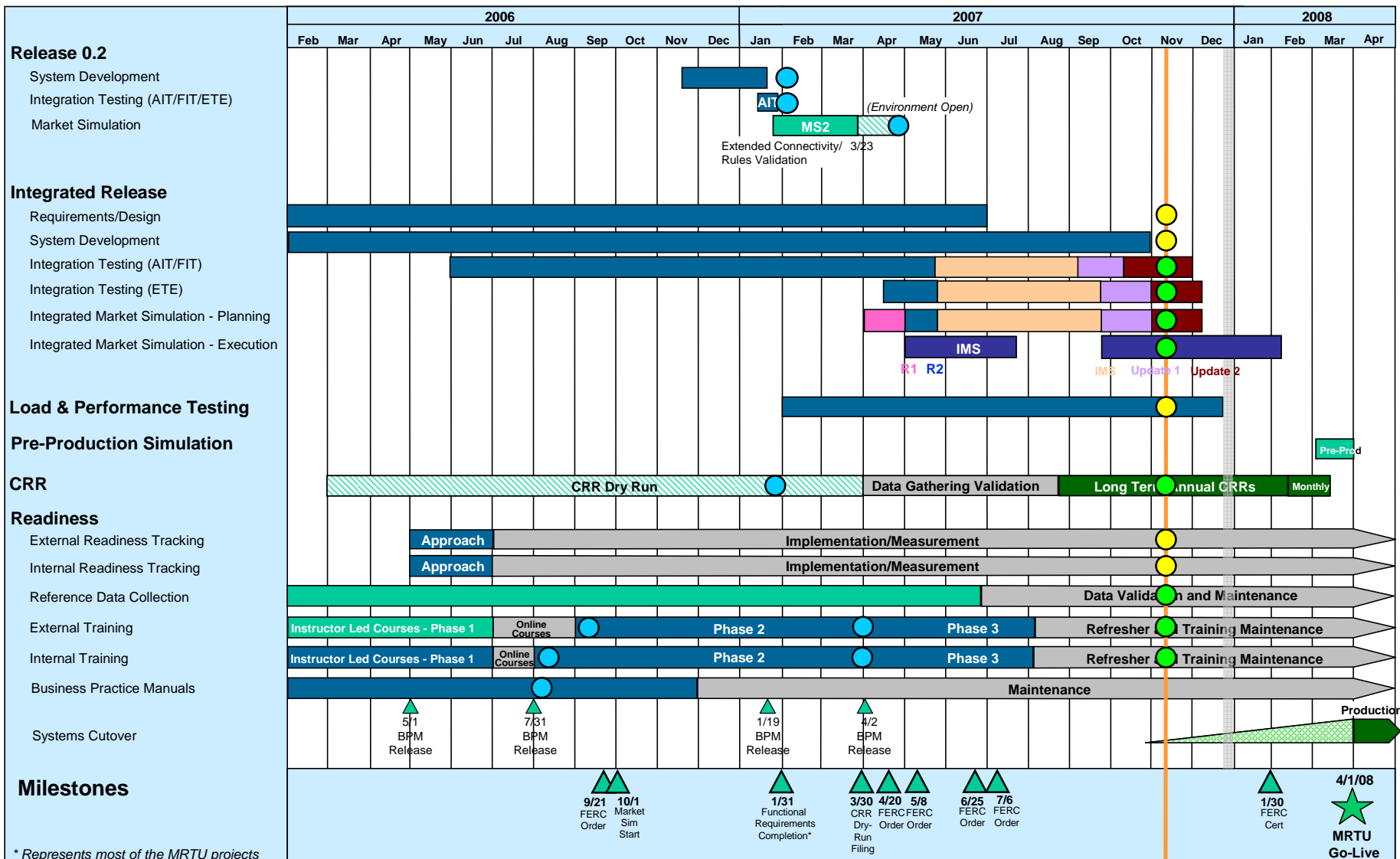
## MRTU Program Progress as of November 16, 2007

Program Area	Design	Build	Test	Integration Test	End-to-End	Market	Deployment
Phase 1A							
Phase 1B							
<b>Market Systems</b>							
Real-Time Market							
Integrated Forward Market							
Hour-Ahead Processor							
Residual Unit Com.							
Scheduling							
Policy Must-Haves							
FERC Changes - Market Systems							
<b>Settlements</b>							
Base Product							
Charge Types							
Congestion Revenue Rights							
FERC Changes - Settlements/CRRs							
<b>Legacy</b>							
Automated Dispatch System (ADS)							
Reference Level Calculator (RLC)							
Scheduling and Logging System (SLIC)							
Compliance Automation Production System (CAPS)							
Existing Transmission Contract Coordination (ETCC)							
Operational Meter Analysis and Reporting (OMAR)							
Open Access Same-Time Information System (OASIS)							
Reliability-Must-Run Application Validation Engine (RAVE)							
<b>Other Applications</b>							
Market Quality System							
PTR							
Portal							
MFRD							
FERC Changes - Legacy/Other Applications							


Legend	
Phase not started	
Phase in progress	
Phase complete	


**Supporting  
Activities**


Program Area	Planning	Development	Execution
Internal Readiness			
External Readiness			
Training			
Business Processes (Phases 1 & 2)			
BPMs			




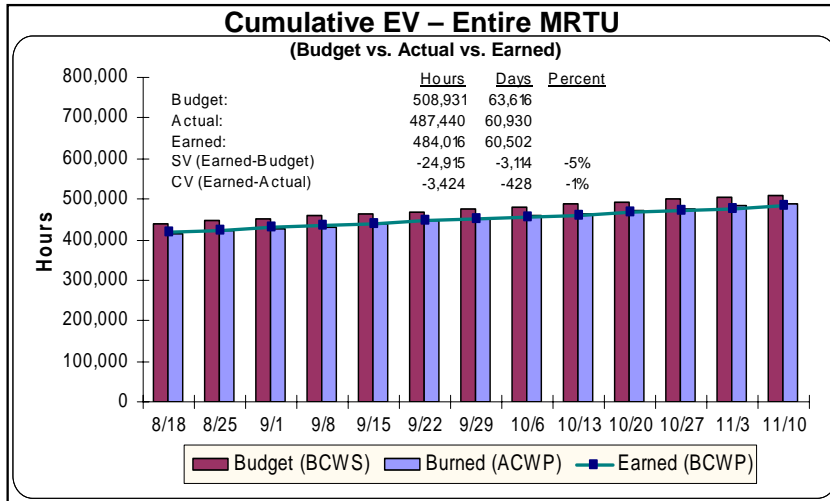
Nov 10

 Complete

 No Delays

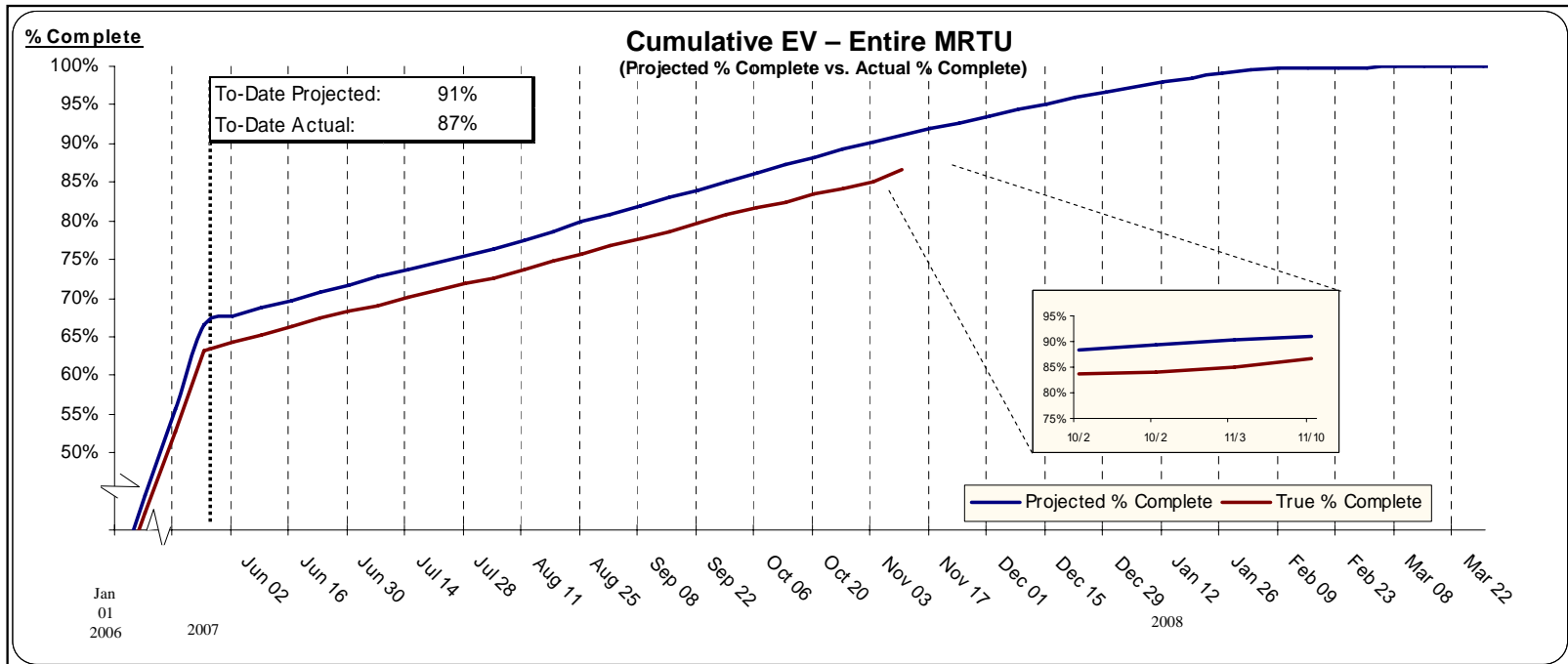
 Delay, but will not impact 04/01/08 Go Live Date

 Delay, will impact 04/01/08 Go Live Date



**Notes/Comments:**

Graph represents the new baseline as of June 2006.



California Independent System Operator  
Summary of Expected Completion Costs vs. December, 2006 Budget  
October 31, 2007  
(In Thousands) \*

Project	Re-baselined Project Costs Dec. 2006 (a)**	Actual Costs Through 2006 (b)	Paid Invoices To Date 10/31/07 (c)	Estimated Costs to Complete (d)	Cost of Project at Completion (e)=(c+d)	Increase (Decrease) from Baseline (f)=(e-a)
<b>Market Redesign</b>	<b>\$ 64,807</b>	<b>\$ 49,990</b>	<b>\$ 58,837</b>	<b>\$ 3,422</b>	<b>\$ 62,259</b>	<b>\$ (2,548)</b>
1 Automatic Mitigation Procedures/Phase 1A	773	773	773	0	773	0
2 Real Time Markets/Phase 1B	16,297	16,297	16,297	0	16,297	0
3 Integrated Forward Markets/Real -Time Market (IFM/RTM)	33,372	23,673	29,474	1,889	31,363	(2,009)
4 Congestion Revenue Rights (CRR)	4,516	3,986	4,546	105	4,651	135
4A Market Quality System (MQS)	6,261	2,315	4,566	1,021	5,587	(674)
11A Hardware & Software Purchases	3,588	2,947	3,181	407	3,588	0
<b>Technology Upgrade</b>	<b>\$ 74,179</b>	<b>\$ 61,020</b>	<b>\$ 70,092</b>	<b>\$ 3,929</b>	<b>\$ 74,022</b>	<b>\$ (157)</b>
5 Scheduling Infrastructure Business Rules (SIBR)	13,323	9,727	11,126	1,486	12,612	(712)
6 Settlements and Market Clearing (SaMC)	18,030	16,170	18,349	953	19,301	1,272
6 Master File (MFRD)	2,300	2,291	2,374	17	2,391	91
9 Post Transactional Repository (PTR)	2,461	2,236	2,710	200	2,910	448
10 Legacy Systems	7,785	6,379	7,077	330	7,407	(377)
10A State Estimator/Full Network Model	1,345	1,040	1,170	0	1,170	(175)
11 Technology Infrastructure/ Portal	2,065	2,050	2,051	0	2,051	(14)
11B Hardware & Software Purchases	6,923	5,197	6,377	547	6,923	0
12A System Integration/Enterprise Architecture	17,989	15,540	17,644	123	17,768	(222)
12B Technology Architecture	1,957	389	1,215	274	1,489	(468)
<b>Common Projects ***</b>	<b>\$ 41,214</b>	<b>\$ 25,738</b>	<b>\$ 39,623</b>	<b>\$ 7,286</b>	<b>\$ 46,909</b>	<b>\$ 5,695</b>
13 Training/Readiness Projects	9,709	6,975	10,080	852	10,931	1,222
14A Project Management	17,666	11,907	14,273	2,934	17,206	(459)
14B Testing	13,840	6,856	15,270	3,501	18,771	4,932
<b>Ongoing Scope Adjustments</b>	<b>\$ 1,523</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ (1,523)</b>
Pending MRTU Scope Changes	1,523	0	0	0	0	(1,523)
<b>Contingency</b>	<b>\$ 7,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,033</b>	<b>\$ 6,033</b>	<b>\$ (1,467)</b>
15 Program Contingency	7,500	0	0	6,033	6,033	(1,467)
<b>Total MRTU Project</b>	<b>\$ 189,223</b>	<b>\$ 136,748</b>	<b>\$ 168,552</b>	<b>\$ 20,670</b>	<b>\$ 189,223</b>	<b>\$ (0)</b>

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

\*\* Budgets include: Consultant Labor, Vendor Costs, Travel & Meals Expenses, Training, Hardware, Software, Maintenance, Employee Backfill costs

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



## **ATTACHMENT B**

Attachment B- FERC Status Report – December 2007

# **MRTU Readiness Program Summary**

## **FERC Update**

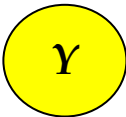

**December 1, 2007**

## MRTU Readiness Program Executive Summary

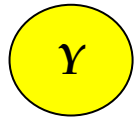

**This summary represents a status of the MRTU Readiness program that focuses on activities to ensure that the people, processes, and technologies for both CAISO and the Participants are ready for the implementation of the MRTU program on March 31, 2008. For the month of November, the MRTU Readiness Program continues to make progress in the following areas:**

- Planning for Final Readiness Assessments with Participants underway
- Launched on-site market simulation support initiatives recently in an effort to help Participants better prepare for March 31, 2008.
- Launched and completed 3 weeks of Integrated Market Simulation – Update 1
- Execution of several detailed Scenarios occurring during Update 1 and planned for Update 2
- Continued conducting ongoing Market Participant Meetings such as PRAG, Technical Workshops, IMS (de) briefing calls, Implementation Workshops
- Completed Session 12 (of 13) Bid to Bill Market Participant Training
- Conducted Internal Readiness Assessment and gathered deliverables for Implementation Phase
- Continued to conduct resolution meetings for all open issues/gaps for Phase 3 Business Processes (15 Business Processes)
- Completed 5 (of 8) Company-wide MRTU Business Process Walkthroughs of key Bid to Bill processes that are a result of MRTU





## MRTU Readiness Overview

Internal Readiness	
Current Period	Trend
	

- Implementation Assessment conducted by 11/30/07 with all Business Units. Results will be reported by mid-December, with final go-live checklists of remaining activities by Business Units created.
- Outlining Transition schedule with PMO, IT and Business Owners to ensure that clear roles and responsibilities are defined.
- Continued developing Operator Role-Based Training and conducting SME review sessions with the Operators.

External Readiness	
Current Period	Trend
	

- Executed 25% detailed readiness scenarios in Release 3 and Update 1 Market Simulations.
- Conducted additional Settlements Charge Code Workshop that focused on Real Time Charge Codes with the Participants.
- Participant Check Points/Follow Ups planned throughout Market Simulation.

	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

**The following list summarizes the remaining activities to be completed:**

- Complete planning and scheduling for Final Readiness Assessments to be conducted with Participants in January/February
- Continue Touch Points with Participants throughout Market Simulation
- Score Internal Assessment (Implementation Phase) for all CAISO Internal Business Units. Develop detailed checklist of remaining readiness activities and deliverables prior to Go-Live.
- Close Phase 3 of MRTU Process Walkthroughs for 15 end to end Processes

## 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 3<sup>rd</sup> day of December 2007.

*/s/ Susan Montana*  
Susan Montana