

Market Redesign and Technology Upgrade Budget and Schedule Report







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Project Manager: Deborah Le Vine







Board of Governors Meeting
December 12-13, 2007
General Session







MRTU Executive Summary

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

MRTU Budget	
Current Period	Trend
	
<p>Approved MRTU budget: \$189.223 M* <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 consisted 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. CAISO working to address integration issues with Update 2 environment, revised data structures, and modified applications.
- Implementation Workshop and Settlements Charge Code Training were held on 11/14-11/16.
- PMO has been allocated \$4.5 million of the contingency to date. Total program budget remains intact for the 4/1/08 market start.

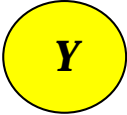

	 Delay, but will not impact 4/01/08 Go-Live Trade date.
	 Delay, will impact 4/01/08 Go-Live Trade date. Use of contingency funds.

	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

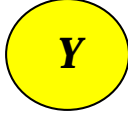

- The Integrated Market Simulation (IMS) Release 3 concluded on 11/9. The Market Simulation team continues to respond to participant issues and conduct briefing/debriefing calls. IMS Update 1 began on 11/13. Currently there are over 200 outstanding issues in the simulation of which over half are considered to be high by the participants, meaning that they impact their ability to test the systems.
- The Readiness team sent out final Assessment Communication to SCs to be completed in January/February, continued working on Touch Points with participants, conducted internal readiness checkpoints with Business users and developed an internal check list of remaining readiness activities and deliverables prior to Go-Live. The Training team held the Settlements Charge Code Workshop 11/15-11/16, posted four guidebooks, conducted the SCE Bid-to-Bill session and determined a January/February schedule for the remaining Siemens courses.
- Launched on-site market simulation support initiatives recently in an effort to help Participants better prepare for March 31, 2008 market launch. The Participant Triage Support Team is focused on providing both assistance for participants and expediting issue resolution. The Triage Team is further supported by CAISO technical liaisons who will assist market participants directly at their facilities to insure prompt resolution of questions and issues. In addition, CAISO's key vendors have reiterated their commitment to assuring a successful market simulation experience and have substantially increased their support both at their primary locations and on-site in Folsom.

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.

	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

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.
- Continue Bid-to-Bill validation of Settlement Charge Codes. CAISO acknowledges reported challenges with Participant's ability to validate settlements independently and continues to work on issue resolution.
- CAISO has increased its outreach activities to improve stakeholder simulation experience and shorten the resolution time on specific issues.

Integrated Market Simulation Release 3

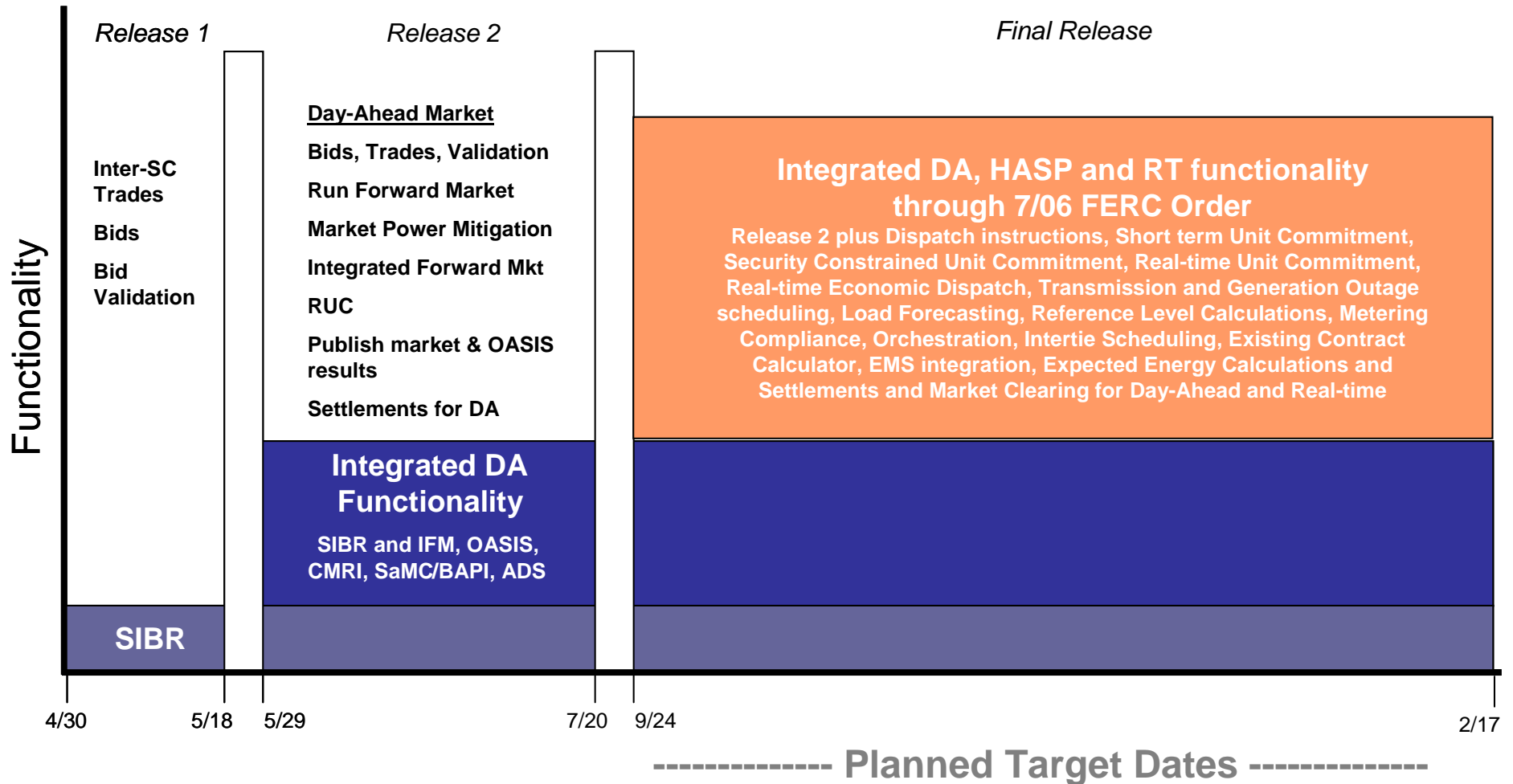
Seven weeks of MRTU Integrated Market Simulation (IMS Release 3) have been completed. Overall the participation by the market has been high and system availability and performance have for the most part met the targets, though exceptions are noted below. Market Participant progress has been hampered 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.
- 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%.

Integrated Market Simulation Release 3 Contd.

- 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

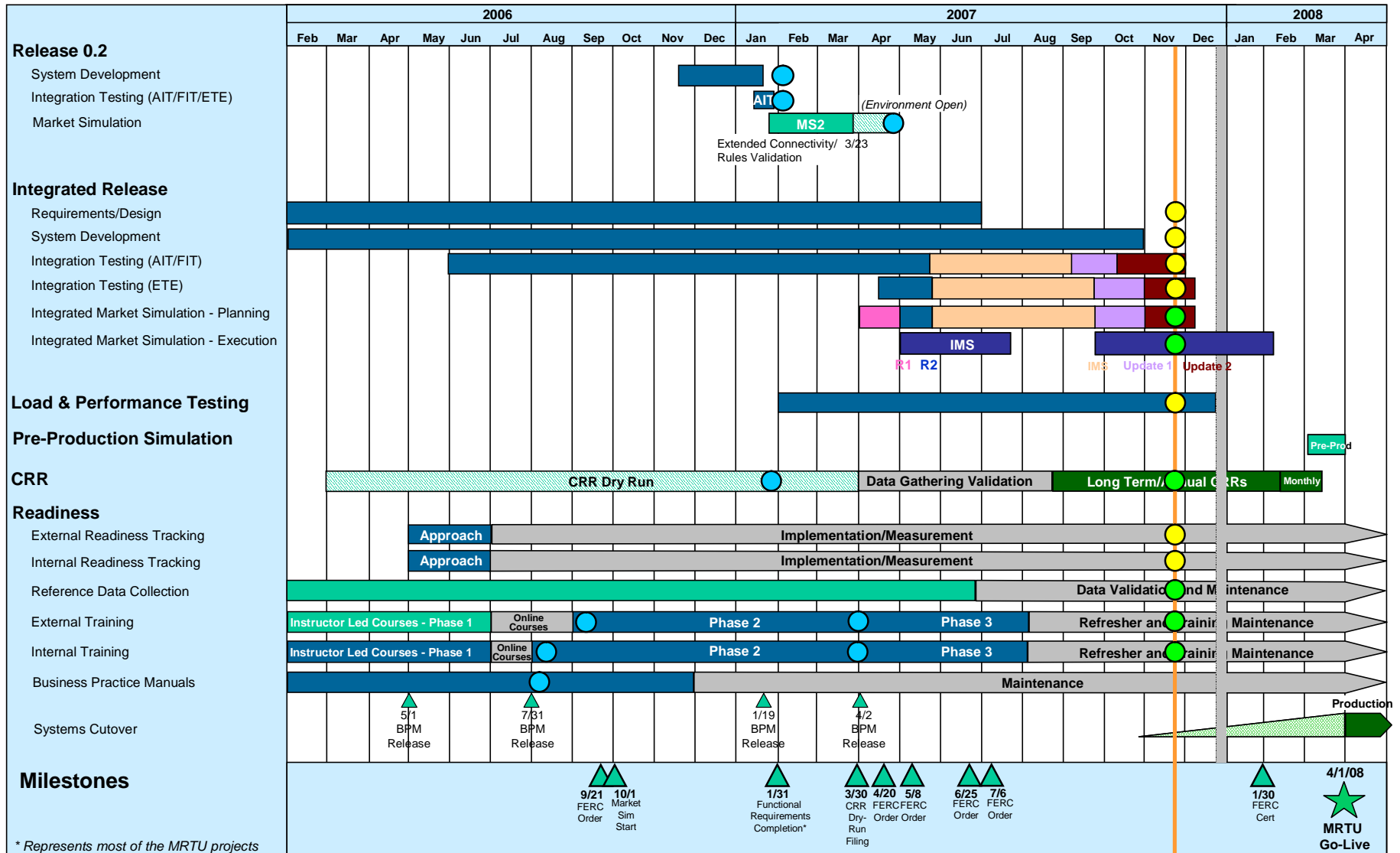
Program Area	Design	Build	Test	Integration Test	End-to-End	Market	Deployment
Phase 1A							
Phase 1B							
Market Systems							
Real-Time Market							
Integrated Forward Market							
Hour-Ahead Processor							
Residual Unit Com.							
Scheduling							
Policy Must-Haves							
FERC Changes - Market Systems							
Settlements							
Base Product							
Charge Types							
Congestion Revenue Rights							
FERC Changes - Settlements/CRRs							
Legacy							
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)							
Other Applications							
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			

MRTU High-Level Timeline



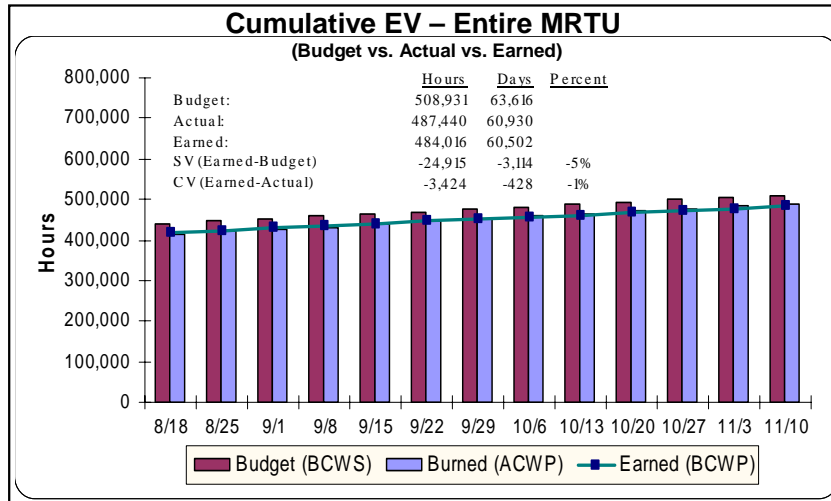
Nov 24

● Complete

● No Delays

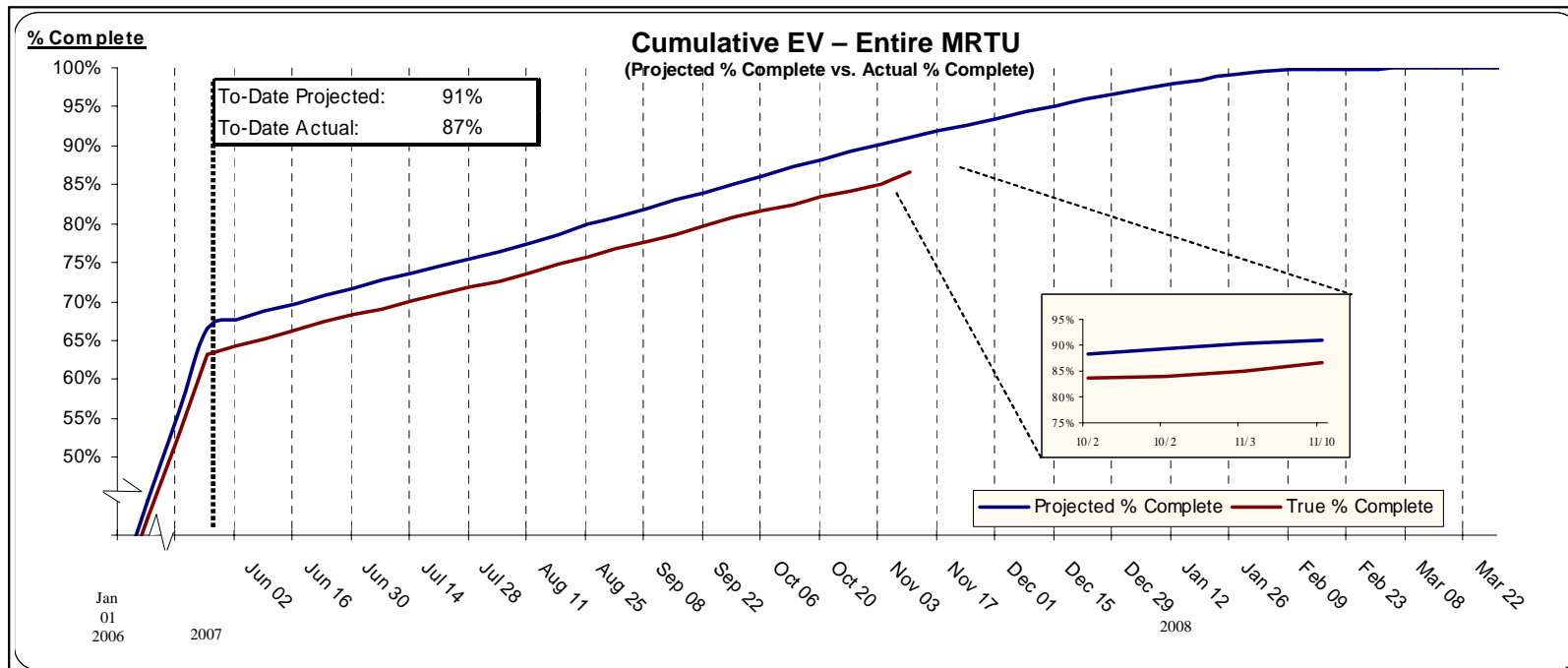
● Delay, but will not impact 04/01/08 Go Live Date

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



Notes/Comments:

Graph represents the new baseline as of June 2006.



Included in Graphs: BPM, Business Process, SIBR, Training, FNM/SE, IFM, MQS, CRR, Mkt Cert, MDS, MFRD, SaMC, Portal, Testing, Integration, PTR, PMO, Legacy, STING, Readiness, and Technical Architecture, Infrastructure/Environment. **Not Included in Graphs:** n/a



MRTU Financials

California Independent System Operator Corporation

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)
Market Redesign	\$ 64,807	\$ 49,990	\$ 58,837	\$ 3,422	\$ 62,259	\$ (2,548)
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
Technology Upgrade	\$ 74,179	\$ 61,020	\$ 70,092	\$ 3,929	\$ 74,022	\$ (157)
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)
Common Projects ***	\$ 41,214	\$ 25,738	\$ 39,623	\$ 7,286	\$ 46,909	\$ 5,695
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
Ongoing Scope Adjustments	\$ 1,523	\$ -	\$ -	\$ 0	\$ 0	\$ (1,523)
Pending MRTU Scope Changes	1,523	0	0	0	0	(1,523)
Contingency	\$ 7,500	\$ -	\$ -	\$ 6,033	\$ 6,033	\$ (1,467)
15 Program Contingency	7,500	0	0	6,033	6,033	(1,467)
Total MRTU Project	\$ 189,223	\$ 136,748	\$ 168,552	\$ 20,670	\$ 189,223	\$ (0)

* 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