

# Briefing on MRTU and Readiness Update



Deborah Le Vine  
Director of Market Services and MRTU Program Manager



**California ISO**  
Your Link to Power

**Board of Governors Meeting  
September 6-7, 2007**



As of last month, CAISO was tracking to a 2/1/08 Go-Live date. Due to various challenges, the PMO has re-planned for a 4/1/08 Go-Live date. All metrics in this report reflect the re-planned schedule with a Go-Live date of 4/1/08

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 a 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>	

- Market Applications are running in the Integration test environment. Focus is on stabilizing applications, producing a consistent solution and integrating upstream and downstream systems.
- Integrated Market Simulation (IMS) R2 concluded July 20th.
- The next Integrated Market Simulation is targeted to start in mid to late September, followed by two updates. Update 1 in late October to early November and Update 2 early to mid December.
- Integrated Market Simulation Planning Session held with Market Participants on 8/9. Second Planning Session scheduled for 8/22.

- PMO continues to process change requests and evaluate against approved budgets.
- PMO is evaluating impacts of the June 25th FERC Order.

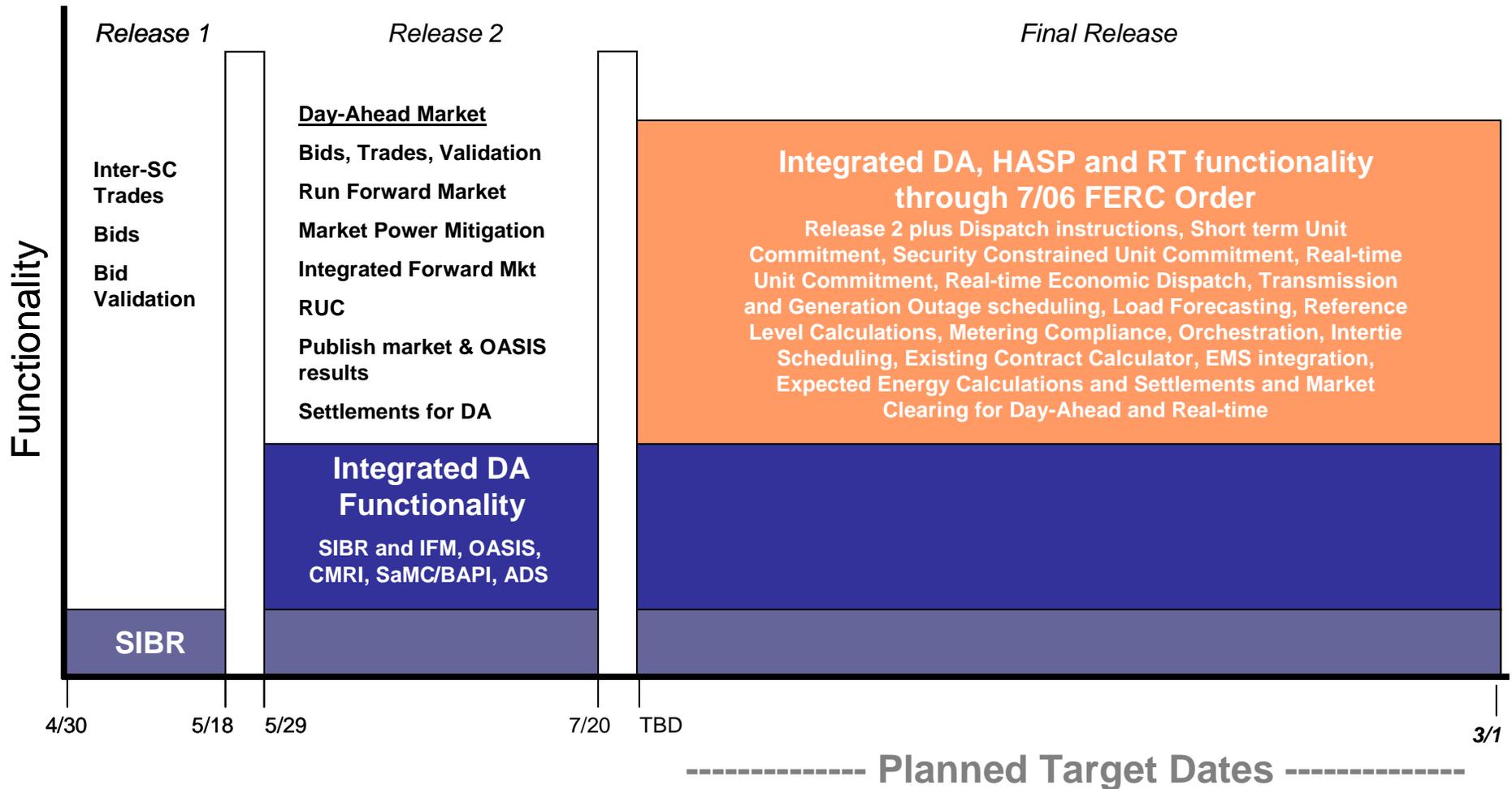
	Delay, but will not impact 4/1/08 Go-Live Trade date.
	Delay, will impact 4/1/08 Go-Live Trade date. Use of contingency funds.

	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.



- The focus is now on planning for the next Integrated Market Simulation while incorporating lessons learned as well as concerns and proposals raised by Market Participants. Scripts and documents are being developed and technical interface documents have been posted for the next Integrated Market Simulation, targeted to begin in mid to late September.
- The Readiness team conducted several Participant Assessments (80 of 85 complete) and Process Walkthroughs. Participant and CAISO Action Items from the Participant Assessments are being identified, collected and addressed. The next workshop is scheduled for 8/28. Additionally, signoff was obtained for MRTU Readiness Certification - Milestone 1 (of 3) from all Directors and Managers. The Training team continued work on various Computer Based Training, Internal Bid-to-Bill, Settlements and Grid Ops Level 400 training development.
- The Testing team has been working to stabilize Market Applications with focus on Real-Time Market (RTM). Integration and business validation of downstream systems including SaMC, MQS and Legacy applications as well as automation testing is underway.

# IMS Scope and Schedule



## MRTU Program Progress as of August 14, 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			

## Accomplishments & Milestones

## Planned Activities

### Integration (Interfaces)

- Provided support for FIT and Load & Performance (L&P) testing

### Settlements and Market Clearing

- Released P1 & P2 configuration version 1.0
- P3 configuration testing just begun

### Integrated Forward Markets/Real-Time Nodal (IFM/RTN)

- CR3C/CR4: Continued Factory Acceptance Testing (FAT)
- CR3B: Executed continuous runs of RT/NA in Folsom FIT

### Scheduling Infrastructure and Business Rules (SIBR)

- Began planning for SIBR-LITE CR4 upgrade

### Market Quality Systems (MQS)

- Completed v2.0 FAT and began v2.0 Site Acceptance Testing (SAT)
- Began full FIT testing with IFM/RTM using v1.1, achieved full 24 hour runs for EE and Allocation, data retrievals and settlement costs

### Congestion Revenue Rights

- Finalized and ran the DB18 TOR Market and DB18 TOR/ETC/CVR nominations through production
- Released FNM to CRR Market Participants on 8/1
- Uploaded Market Setup data, MPs began submitting CRR nominations

### Legacy

- All systems transitioned to Fix-It team with exception of RAVE and PIRP

### Testing

- IMS: Running RTD with an average successful up time of 92%; began MQS payload generation and broadcast to downstream systems; began integrating Master File 6.2 into FIT
- Began business validation of CMRI and OASIS reports
- L&P: Completed L&P software upgrades for IFM and RTM; completed SaMC rebuild; began MQS performance testing

### Market Definition Service

- SAT for Release 1 93% complete (Orchestration)

### Integration (Interfaces)

- Continue to provide support for integration services fixes and L&P environments

### Settlements and Market Clearing

- Begin P3 configuration testing

### Integrated Forward Markets/Real-Time Nodal (IFM/RTN)

- Continue CR3B FIT/End-to-End testing until start of final IMS
- Continue CR3C/CR4 FAT testing, targeting completion on 8/31

### Legacy

- Complete RAVE SAT on 8/17; complete all Legacy transition documentation

### Market Quality Systems

- Support v1.1 FIT testing
- Continue v2.0 SAT
- Complete web services implementation plan for v2.0

### Congestion Revenue Rights

- Run TOR Market in Production environment
- Begin Monitoring production

### Full Network Model/State Estimator

- Continue DB18 model update testing, gap closure activities, Analysis Track testing and development of DB20 and DB21

### Testing

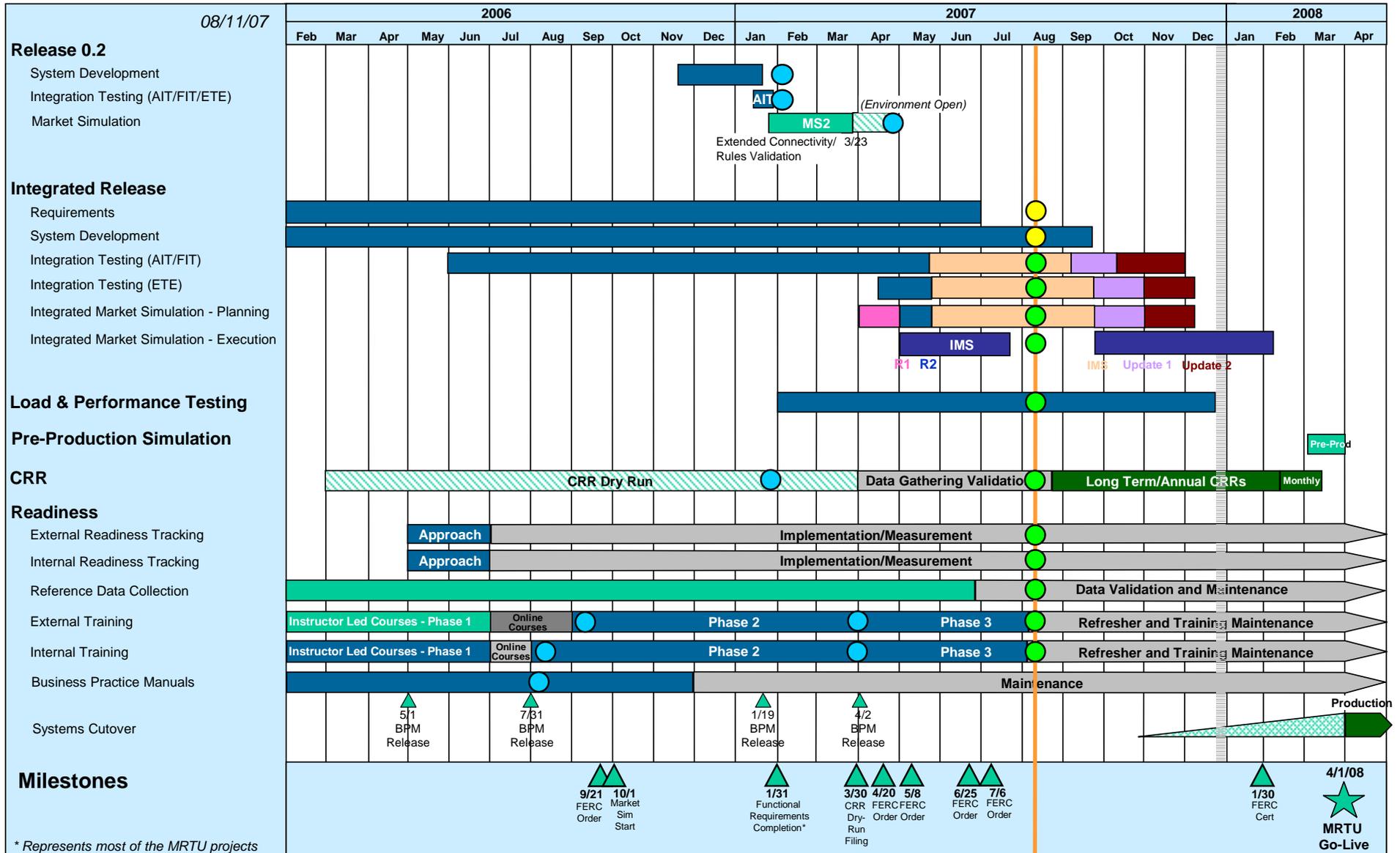
- Migrate MF 6.3 into FIT; test MF 6.2 in Siemens systems
- Finalize stabilization of RTM in L&P with MF 6.3
- Begin SaMC End-to-End validation
- Complete integration of SLIC and ALFS with IFM

### Market Definition Service

- Hand off Release 1 (Orchestration) to FIT team
- Complete Release 2 (Notifications)

### Market Simulation

- Continue preparation for Integrated Market Simulation



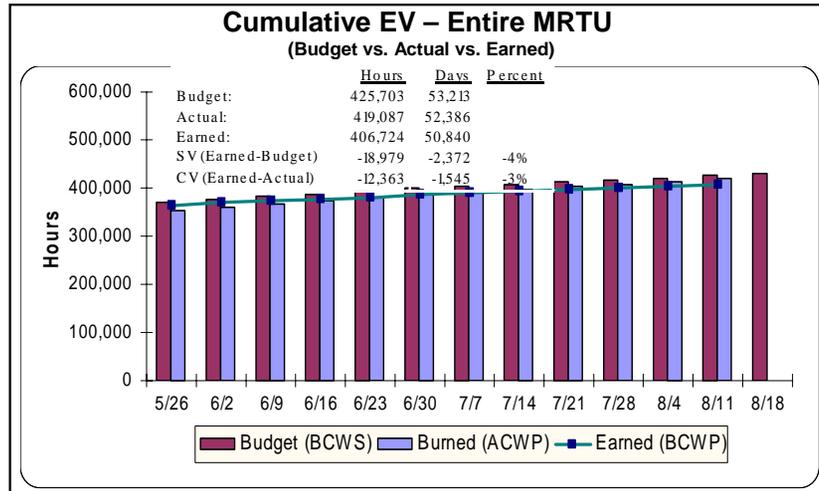
Aug 11

● Complete

● No Delays

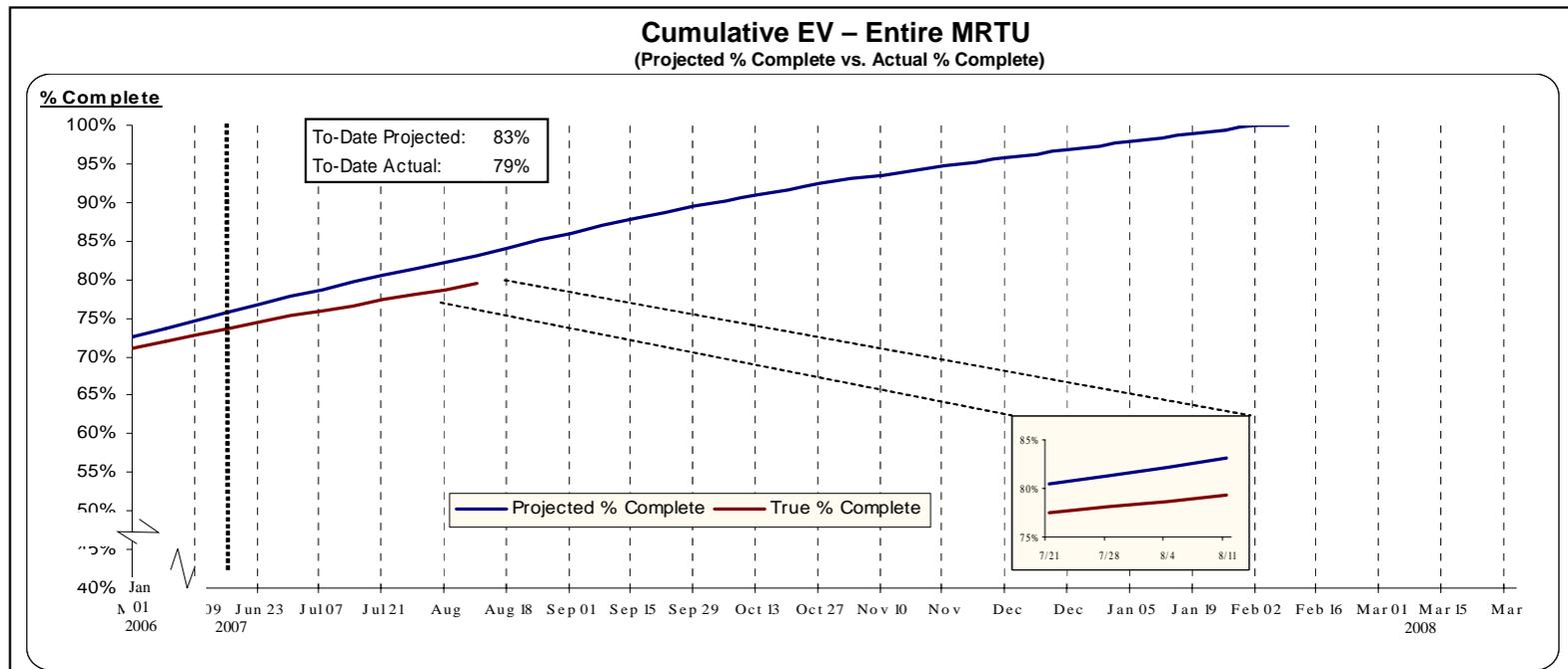
● Delay, but will not impact 04/01/08 Go Live Date

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



**Notes/Comments:**

Graph represents the new baseline as of June 2006.  
5/21/07 - Addition of MDS Project



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

## MRTU Financials

California Independent System Operator  
Summary of Expected Completion Costs vs. December, 2006 Budget  
June 30, 2007  
(In Thousands) \*

Project	Re-baselined Project Costs Dec. 2006 (a)**	Actual Costs Through 2006 (b)	Paid Invoices To Date 6/30/07 (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>\$ 54,169</b>	<b>\$ 10,637</b>	<b>\$ 64,807</b>	<b>\$ -</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	26,598	6,774	33,372	0
4 Congestion Revenue Rights (CRR)	4,516	3,986	4,206	310	4,516	0
4A Market Quality System (MQS)	6,261	2,315	3,349	2,912	6,261	0
11A Hardware & Software Purchases	3,588	2,947	2,947	642	3,588	0
<b>Technology Upgrade</b>	<b>\$ 74,179</b>	<b>\$ 61,020</b>	<b>\$ 67,330</b>	<b>\$ 6,848</b>	<b>\$ 74,179</b>	<b>\$ -</b>
5 Scheduling Infrastructure Business Rules (SIBR)	13,323	9,727	10,361	2,963	13,323	0
6 Settlements and Market Clearing (SaMC)	18,030	16,170	17,207	823	18,030	0
6 Master File (MFRD)	2,300	2,291	2,347	(47)	2,300	0
9 Post Transactional Repository (PTR) - CMRI	2,461	2,236	2,692	(230)	2,461	0
10 Legacy Systems	7,785	6,379	6,984	800	7,785	0
10A State Estimator/Full Network Model	1,345	1,040	1,176	169	1,345	0
11 Technology Infrastructure/ Portal	2,065	2,050	2,051	14	2,065	0
11B Hardware & Software Purchases	6,923	5,197	6,227	697	6,923	0
12A System Integration/Enterprise Architecture	17,989	15,540	17,354	635	17,989	0
12B Technology Architecture	1,957	389	932	1,025	1,957	0
<b>Common Projects ***</b>	<b>\$ 41,214</b>	<b>\$ 25,738</b>	<b>\$ 33,584</b>	<b>\$ 7,631</b>	<b>\$ 41,214</b>	<b>\$ -</b>
13 Training/Readiness Projects	9,709	6,975	8,971	738	9,709	0
14A Project Management	17,666	11,907	13,355	4,310	17,666	0
14B Testing	13,840	6,856	11,257	2,582	13,840	0
<b>Ongoing Scope Adjustments</b>	<b>\$ 1,523</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,523</b>	<b>\$ 1,523</b>	<b>\$ -</b>
Pending MRTU Scope Changes	1,523	0	0	1,523	1,523	0
<b>Contingency</b>	<b>\$ 7,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,500</b>	<b>\$ 7,500</b>	<b>\$ -</b>
15 Program Contingency	7,500	0	0	7,500	7,500	0
<b>Total MRTU Project</b>	<b>\$ 189,223</b>	<b>\$ 136,748</b>	<b>\$ 155,083</b>	<b>\$ 34,140</b>	<b>\$ 189,223</b>	<b>\$ -</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

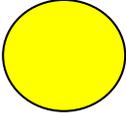
\*\*\* Common Projects Allocation: 47.9% to Market Redesign; 52.1% to Technology Upgrade

## MRTU Readiness Program Executive Summary

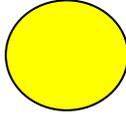
**This summary represents a status of the MRTU Readiness program that focuses on activities to ensure that the people, processes, and technologies for both CAISO and the Participants are ready for the implementation of the MRTU program on March 31, 08. For the month of August, the MRTU Readiness Program continues to make progress in the following areas:**

- Continued to conduct weekly progress reporting and tracking for Internal Readiness with all key Business Units.
- Completed fourth readiness milestone (Build) for all core and non-core Business Units.
- Completed 15 out of 17 Phase 2 Process Walkthrough sessions across Business Units. Targeting to complete remaining 2 session by the end of August
- Completed approximately 86% of mandatory training for CAISO staff (Level 100, 200, and 300) MRTU Training.
- Completed 100% (82 out of the 82) of Participants for the 1<sup>st</sup> Follow-up assessment
- Working on action plans for all active SCs (82 Participants) targeted to be completed end of August.
- Continued conducting ongoing Market Participant Meetings such as PRAG and Technical Workshops.
- Completed the last internal MRTU Level 200 training session for mandatory attendees
- Completed remaining MRTU Market Participant Bid to Bill session hosted by WAPA

## MRTU Readiness Overview

Internal Readiness	
Current Period	Trend
	

- Due to delays in Testing and Market Simulation activities, Internal Business Units are in jeopardy of not completing their process and procedure tasks within the Build phase of readiness.
- CAISO internal readiness activities for core Business Units continue to be reviewed on a weekly or monthly basis.
- 60 Day Certification process for Milestone 2 is in progress.

External Readiness	
Current Period	Trend
	

- Market Participants continue to express concerns on readiness as a result of no confirmed Market Simulation dates and scope. Participants believe that this will impact the time they have to prepare their processes and systems for Go-Live.

	Complete		No Delays
	Delay, but will not impact 11/07 go-live date. Contingency maintained, but at risk.		
	Delay, will impact program delivery and 11/07 Go-live date. Use of contingency funds.		

## MRTU Participant Readiness

Based on feedback from Participants and information resulting from Market Simulation Release 2, the following represents some of the key risks and mitigations that represent the Participants current MRTU Readiness level (yellow):

Risk	Mitigation
<ul style="list-style-type: none"> <li>■ All specific activities described as being in scope for Release 2 were not available</li> <li>■ Release 2 concluded on July 20<sup>th</sup> without achieving simulation success relevant to the Market Simulation objectives</li> </ul>	<ul style="list-style-type: none"> <li>■ CAISO continues to work at resolving issues and to be prepared so that Market Participants can use the software as soon as possible.</li> <li>■ A schedule and approach for Market Simulation will be communicated by the end of August and subsequent information working sessions will continue to be conducted to prepare Participants</li> </ul>

## Internal Readiness Update

At the completion of the Design Phase, Business Units were assessed against criteria and deliverables outlining how the progress of their future processes, accountabilities and organization transition plans. The following represents risks identified and status update on mitigation steps being taken:

Risk	Mitigation Update
<ul style="list-style-type: none"> <li>■ Testing delays are impacting readiness work plans for Business Units.</li> </ul>	<ul style="list-style-type: none"> <li>■ Business Units continue to participate in testing activities and exploring ways outside of testing to gain the knowledge needed to support their knowledge transfer process.</li> <li>■ In-availability of system is still an issue</li> </ul>
<ul style="list-style-type: none"> <li>■ Business Units do not have a clear understanding of testing and market simulation</li> </ul>	<ul style="list-style-type: none"> <li>■ Readiness Team is supporting the End to End Team by identifying the Business Owners, IT Owners and resources assigned to support End to End Testing phases. The End to End Testing Team will meet with these Business and IT Owners to develop a resource schedule and communicate the approach for Business sign-off of processes. The first End to End phase is scheduled to begin in August but has been delayed until September.</li> <li>■ Testing still needs to work with Business Units to determine schedule of resources to support End to End Testing.</li> </ul>
<ul style="list-style-type: none"> <li>■ Business Units are managing multiple projects in addition to MRTU leading to some situations of resource constraints on MRTU.</li> </ul>	<ul style="list-style-type: none"> <li>■ Business Unit's are continuing to review their projects and re-prioritize resources to focus on MRTU</li> <li>■ No progress to date for the month of August</li> </ul>
<ul style="list-style-type: none"> <li>■ Business Units need more focus on confirming data and reporting requirements.</li> </ul>	<ul style="list-style-type: none"> <li>■ Two initiatives are in progress: 1) Enterprise Data Repository Project to provide a means to store the data and ability to create adhoc queries; and 2) IT Reporting Project to understand reporting requirements and create internal reports for business users.</li> <li>■ Inventory to be gathered and shared with IT by end of August</li> <li>■ IT needs to provide a plan and approach by September</li> </ul>

## Next Steps

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

- Analyze and report results of fourth readiness milestone (Build) for all core and non-core Business Units.
- Work with Internal Business Units on Implementation Phase deliverables and activities
- Define and scope Phase 3 Process Walkthroughs
- Initiate Scheduling of 2<sup>nd</sup> Follow-Up Assessment with Market Participants during September. The 2<sup>nd</sup> Follow-Up Assessment is currently planned to take place during the months of December 07 to January 08.
- Plan and conduct Participant Touchpoint (October)
- Continue tracking all readiness activities using updated Readiness Criteria for September report
- Continue developing additional Settlements training materials to deliver in multiple workshops to the Market Participants
- Continue gathering documentation for 2<sup>nd</sup> 60 Day Certification Status Milestone targeted for 10/01/07