



Nodal Program Update

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Nodal PMO

Special Nodal Program Committee
20 July 2009

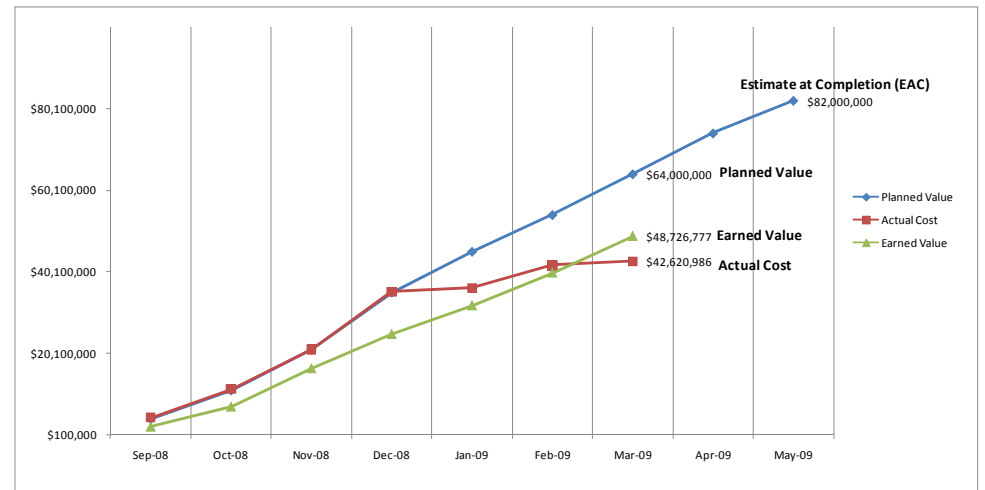
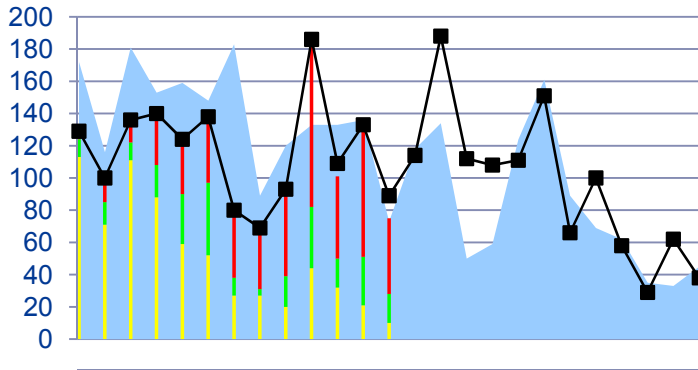
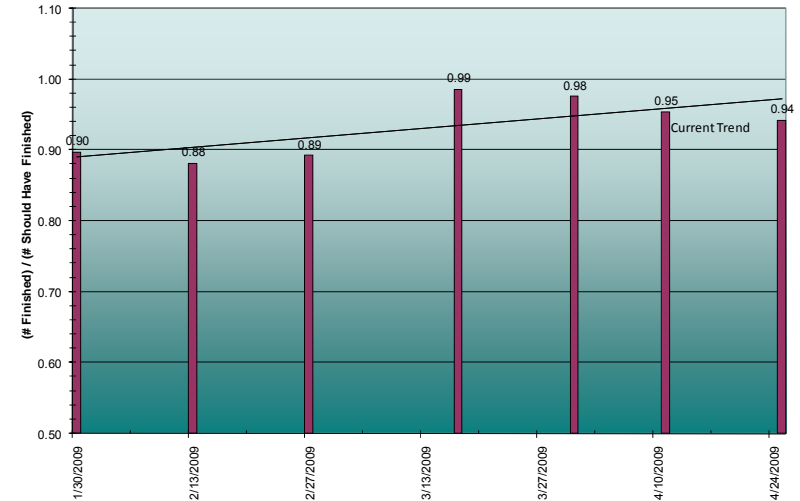
Agenda

- **Nodal Update**
 - New Program Controls
 - Baseline Execution Index
 - Task Finish Trend Chart
 - Earned Value
 - Timeline
 - Milestones
 - Critical Path/Near-Critical Path
 - Project Updates
 - Risks/Issues
 - Audit Points
- **Financial Review**
- **Appendix**

New Program Control Measures

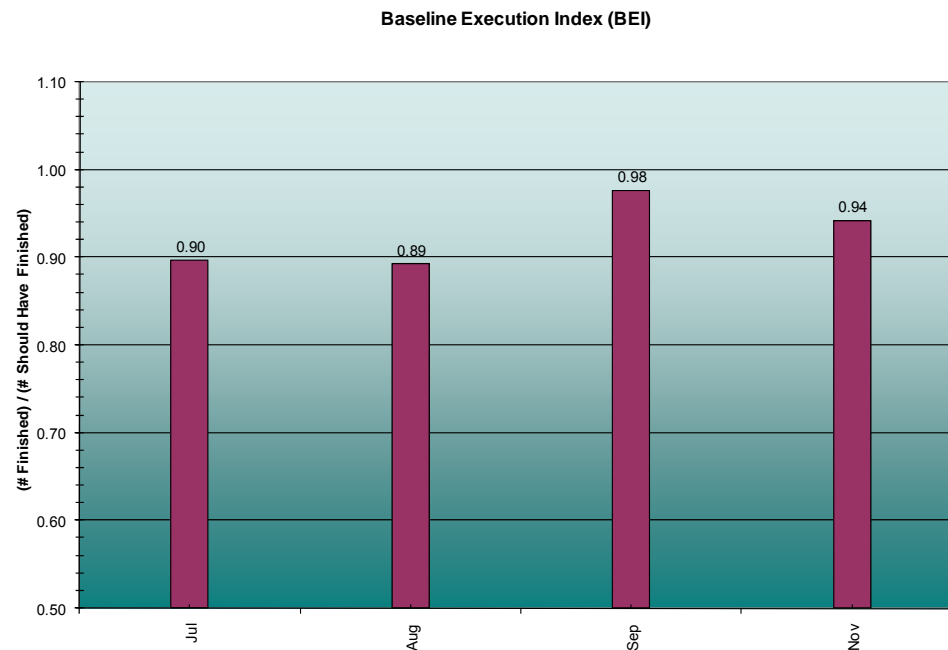
- **Baseline Execution Index**
- **Task Finish Trend Chart**
- **Earned Value**

Baseline Execution Index (BEI)

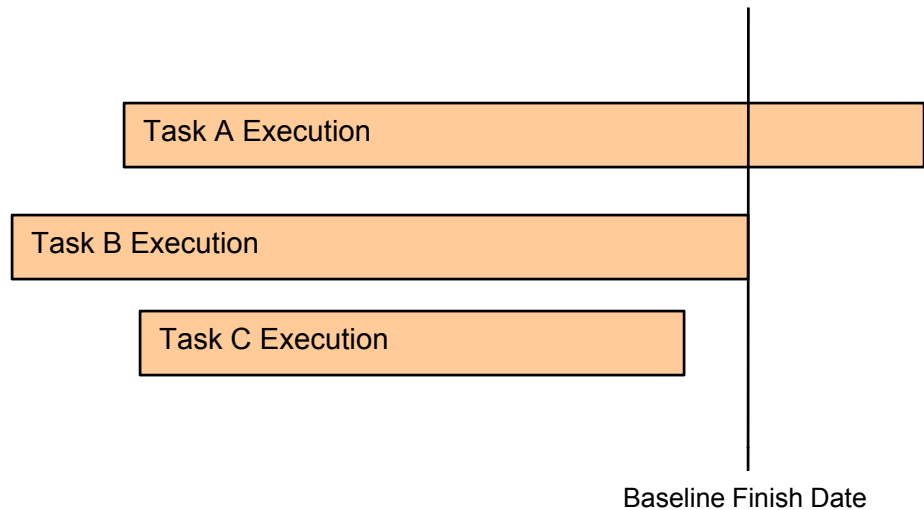


Baseline Execution Index (BEI)

- **Baseline Execution Index measures actual work accomplished against work planned**
BEI = Number of tasks completed/number of tasks planned to complete for the month
- **Provides project-level and program-level trends, allowing the PMO to identify potential problem areas early**



Conservative Task Completion Example

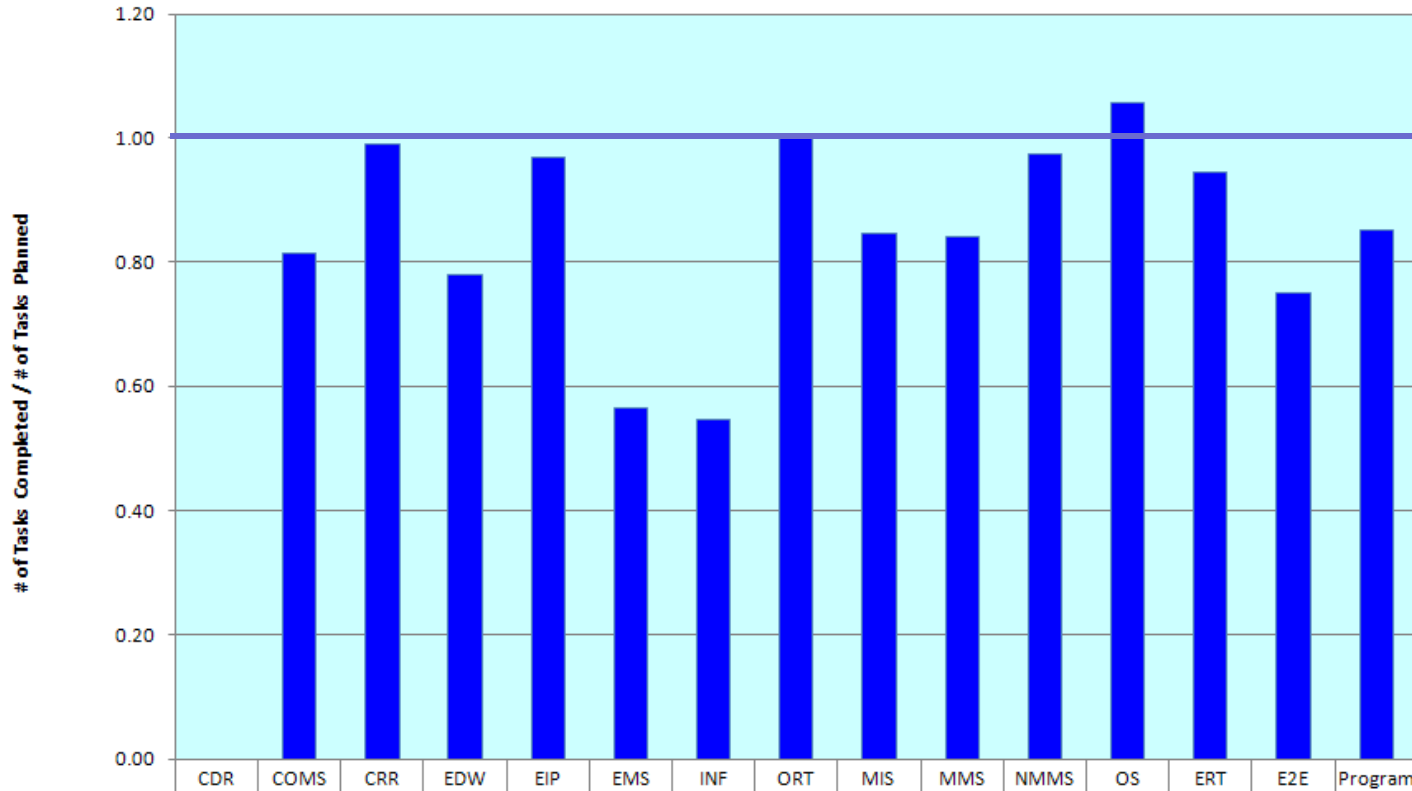


- **We use a 0-100 task completion rule**
 - Only tasks that complete by their baseline finish date are included
 - Task A is considered to be at 0% at the baseline finish date
 - Task B and Task C are each considered to be 100% complete

Cumulative Nodal & Project BEI Metrics Mar-June

Higher is better
 > 1.0 - good
 = 1.0 - Ideal
 < 1.0 - poor

Cumulative Baseline Execution Index by Project 6/30/2009



■ Cumulative BEI: March-June	0.00	0.82	0.99	0.78	0.97	0.57	0.55	1.00	0.85	0.84	0.97	1.05	0.94	0.75	0.85
# of Tasks Planned	5	471	198	196	226	269	11	10	71	390	184	165	18	8	2255
# of Tasks Comp	0	384	196	153	219	152	6	10	60	328	179	174	17	6	1917

Workflows Affecting < 1 Cumulative BEI for Nodal

- **CDR:**
 - Operations Guide delayed due to Resource issues; Scheduled after CDR 5.0 development
- **COMS:**
 - Please reference slide “Getting CMM Back on Track”
 - FT: Business team’s priority is CMM; therefore, pushing the FT schedule as needed to devote their efforts to the CMM project
 - FT application integrates with the Integrated Windows authentication security built as a library that is configured with the application cluster
 - REG and CMM are pending due to CMM completion of functional testing; which includes MP/Entity Maintenance functionality
 - REG: Defect work-arounds in Interface Testing
- **CRR:**
 - NMMS to CRR: Due to late NMMS 6 delivery to iTest
- **EIP:**
 - MMS late giving EIP requirements for the NMMS-MMS.CCT Design
- **EDW:**
 - Due to N-Prod rebuild, most iTest related tasks for EIS release cycles I6-I10 will be impacted. Dependencies from infrastructure and Market Trials schedule will be identified for N-Prod re-build and applied to the EDW schedule.

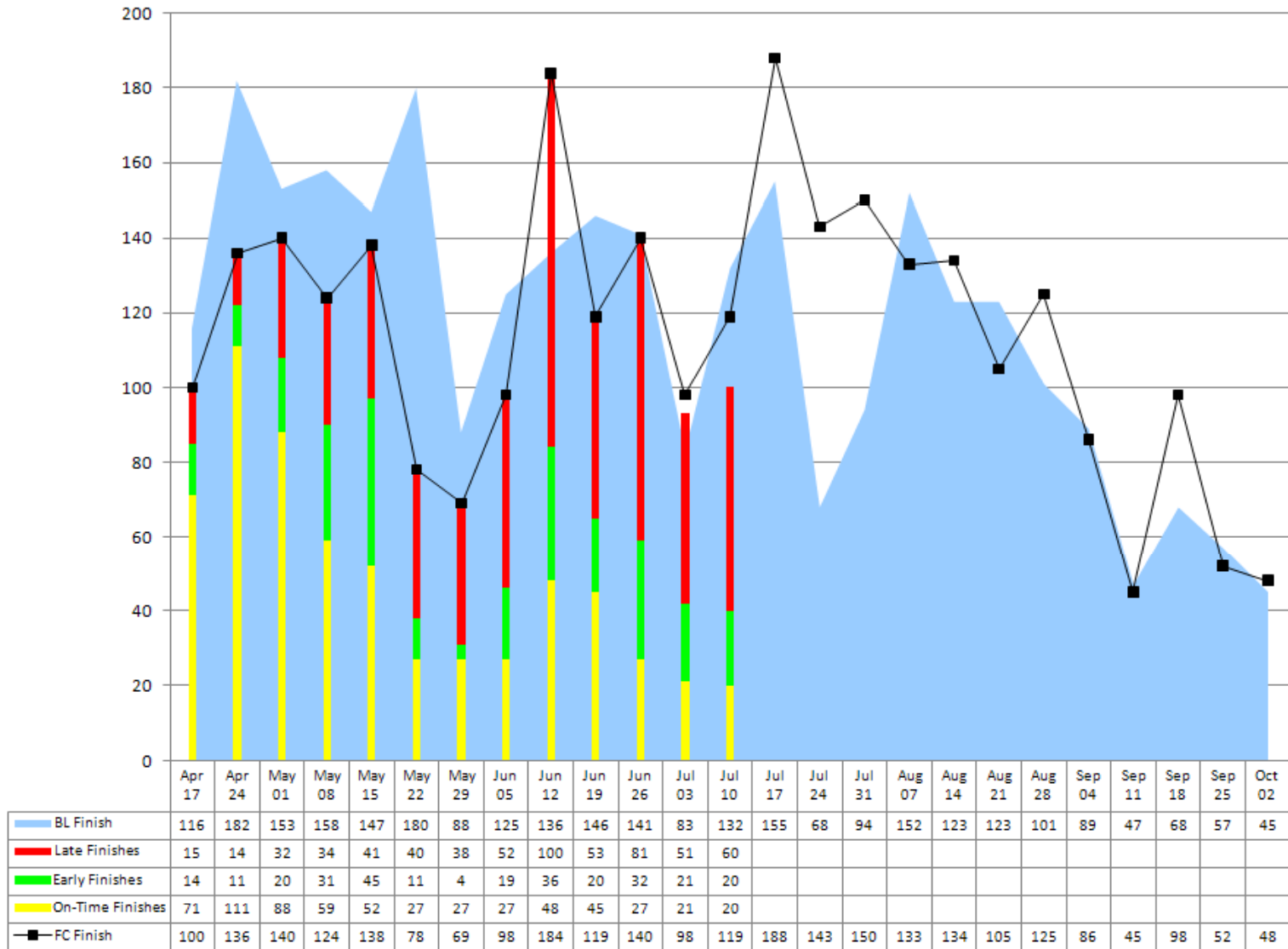
Workflows Affecting < 1 Cumulative BEI for Nodal

- **EMS:**
 - The full system Regression Testing is contingent upon successful completion of EMS Patches 2, 3 and 4. Delays with CIM Importer issues delayed Patch 3 resulting in Release 7/Patch 4 work to start late. The CIM issue has been resolved now and timely resolution of variances in Patch 4 will ensure completion of Regression Testing within the proposed finish date.
 - The recent Pre-FAT of VSAT/TSAT zonal project has resulted in several high and medium defects. The code installation in the Nodal Dev environment is delayed pending resolution of these defects. The program is working closely with the Zonal team to mitigate the delays.
 - There is significant amount of documentation work in various stages of preparation and approvals, but prioritized according to resources availability and other immediate project needs.
 - Documentation for I-A testing is behind schedule; team is working to complete these tasks.
- **MIS:**
 - Dashboard Group 2 Portal Components: Database access issues as well as some data not being the correct format
- **MMS:**
 - MM UI: 2 additional FAT cycles due to defects
 - Interfaces: iTesting was pushed to align with the delivery of MMS5
- **NMMS:**
 - Planning Model Audit late due to variance fix and zonal save case builds
 - NMMS Planning Procedures pushed out so mod changes could complete before procedures complete
 - NMMS 7: delayed into FAT due to NMMS 6 late exit of FAT, which also rippled delays through some of the Interface Testing

Nodal Program Task Finish Trend Charts

- **Purpose: provide graphical view to see how much work is being pushed forward**
- **Compares number of baselined task finishes to number of reforecasted task finishes**

Nodal IPS Task/Milestone Finishes as of July 10, 2009



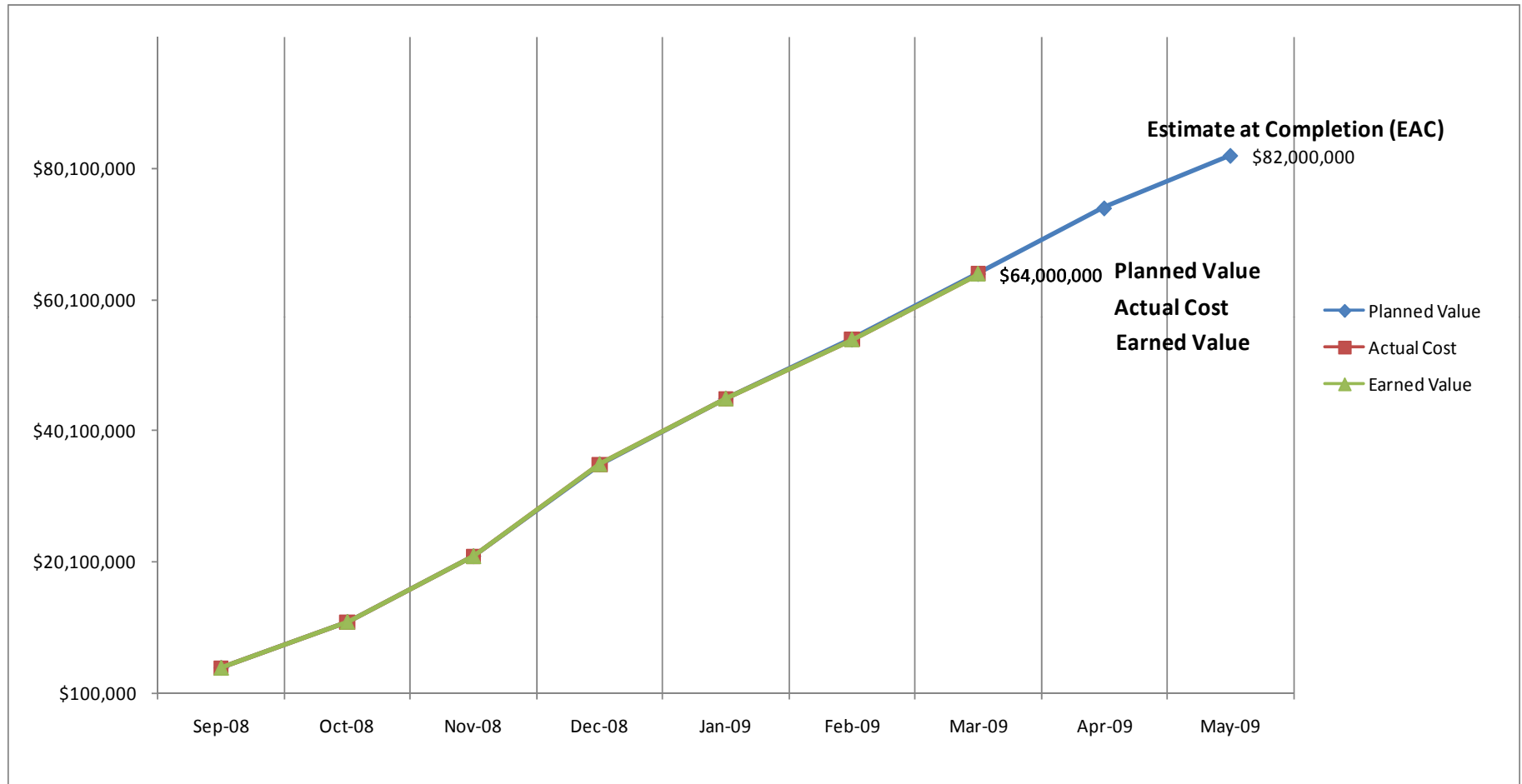
Essence of Earned Value Management

- **Earned Value Management (EVM)**
 - Project management technique to objectively monitor progress
 - Simultaneously tracks costs of work and amount of work accomplished to a baseline plan
- **Planned Value (PV)**
 - Budgeted cost of the work planned to be complete at a given point in time (Monthly Budget)
- **Earned Value (EV)**
 - Value of completed work expressed in terms of original budget assigned to that work ($BEI * \text{Monthly Budget}$)
- **Cost Performance Index (CPI) [Cost Efficiency]**
 - Ratio of Earned Value to Actual Costs
- **Schedule Performance Index (SPI) [Schedule Efficiency]**
 - Ratio of Earned Value to Planned Value

What You Will See

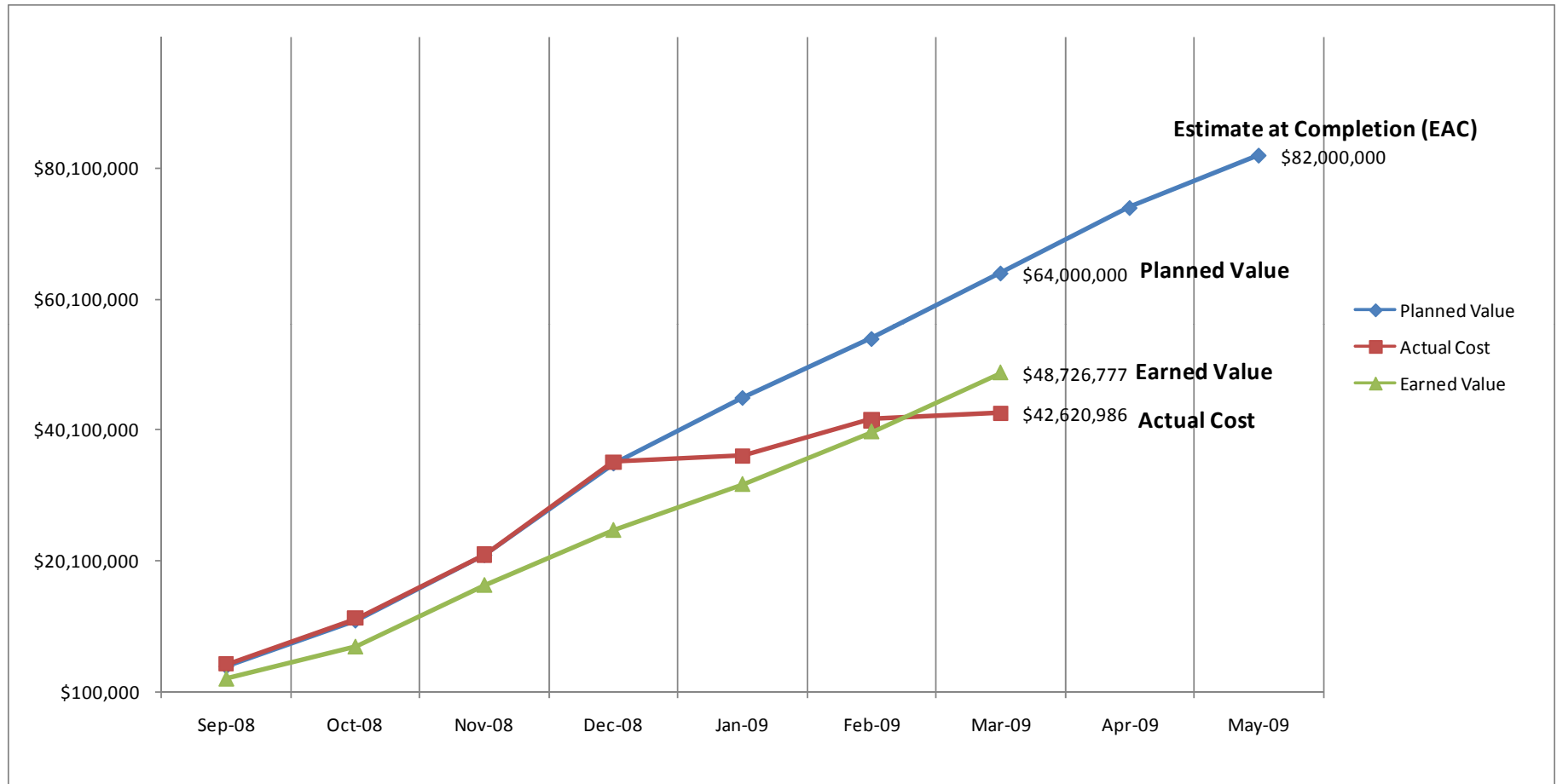
- **EVM chart of the Planned Value, Actual Cost, and Earned Value of the Budget under control of the Project Managers**
- **Cost values shown on the chart are based on a portion of the budget that is controlled by the Project Managers:**
 - Internal Labor Costs
 - External Resource Costs
 - Administrative and Employee Expenses
- **Other program control measures monitored by the program cover other costs (not part of EV calculations)**
 - Software licenses
 - Data center hardware
 - Financing charges
 - Other costs

Example EVM Chart: On Budget, On Schedule



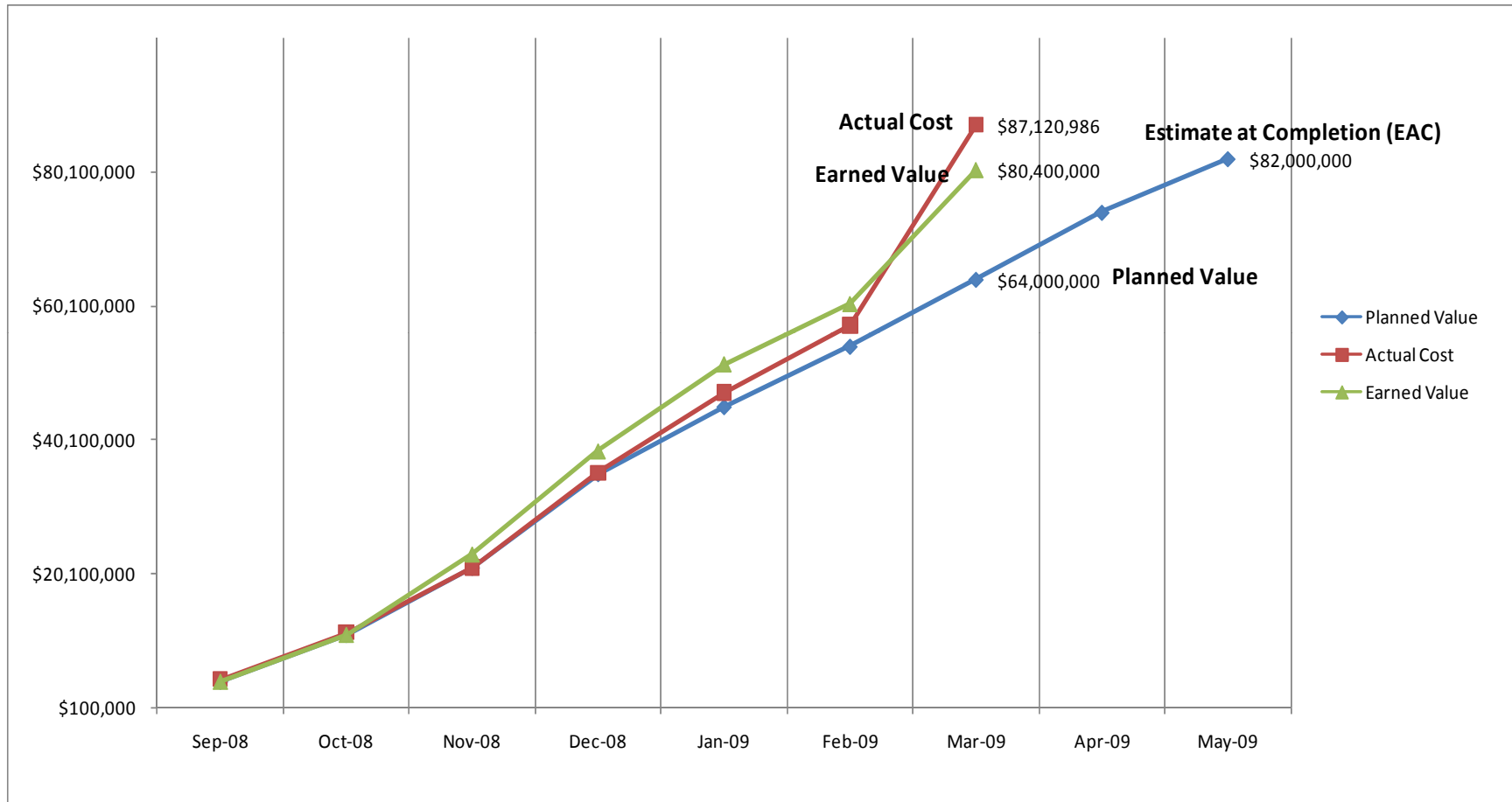
Cumulative **SPI** (Schedule Efficiency) 1.0
Cumulative **CPI** (Cost Efficiency) 1.0

Example EVM Chart: Under Budget, Behind Schedule



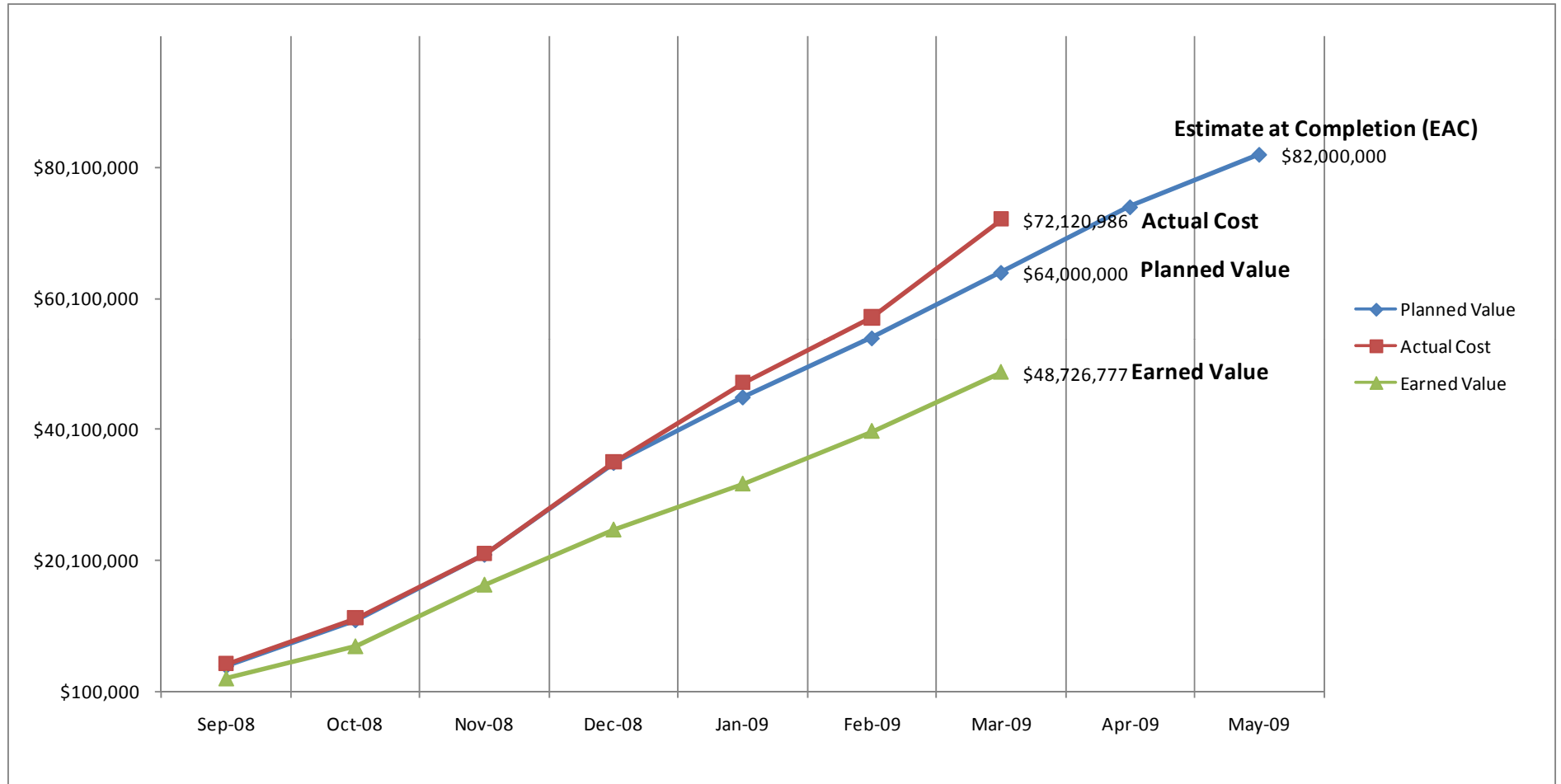
Cumulative **SPI** (Schedule Efficiency) 0.9
 Cumulative **CPI** (Cost Efficiency) 1.1

Example EVM Chart: Over Budget, Ahead of Schedule



Cumulative **SPI** (Schedule Efficiency) 1.3
 Cumulative **CPI** (Cost Efficiency) 0.9

Example EVM Chart: Over Budget, Behind Schedule

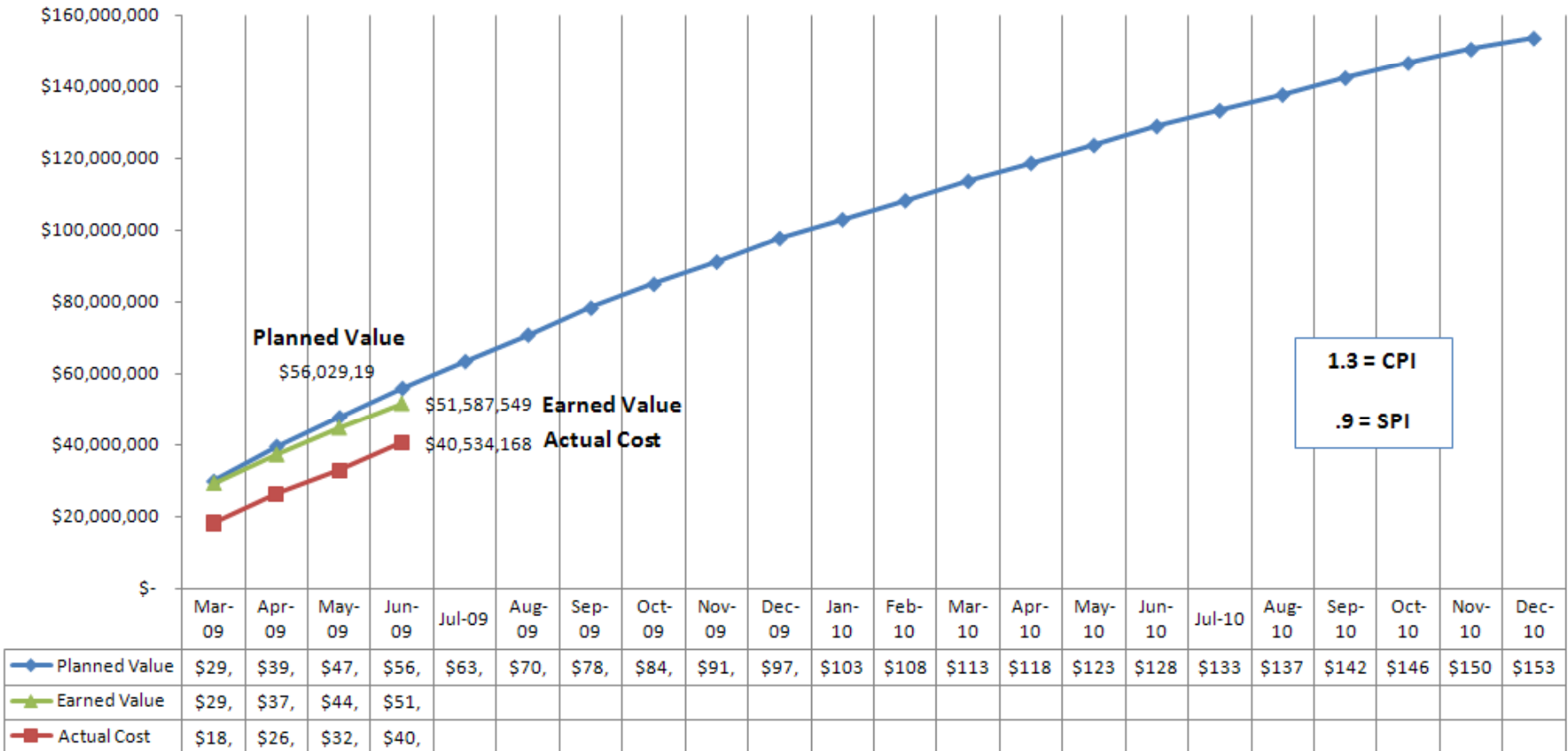


Cumulative **SPI** (Schedule Efficiency) 0.7
 Cumulative **CPI** (Cost Efficiency) 0.7

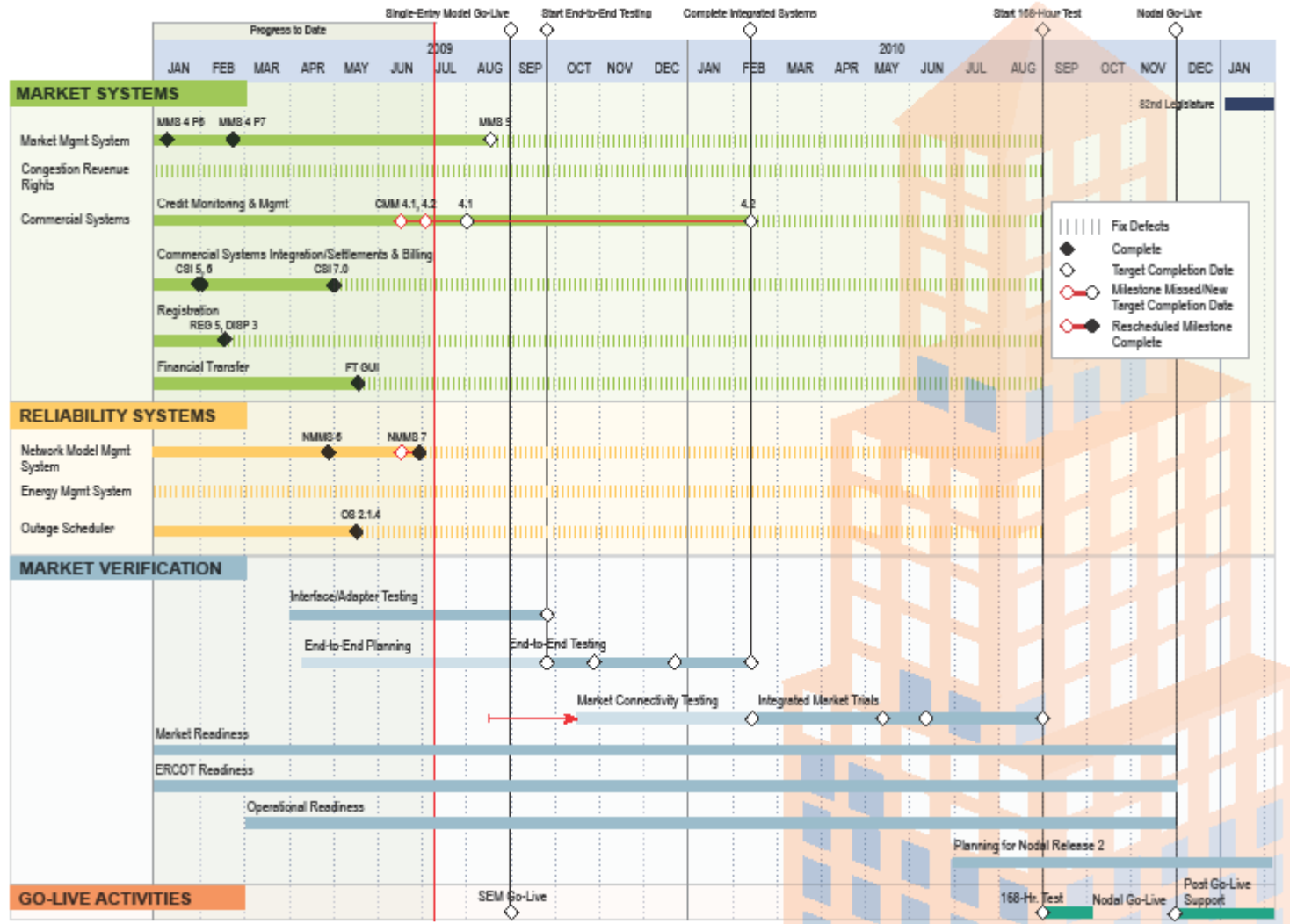
Earned Value for the Nodal Program from Mar-Jun

Nodal Program

Chart only uses the values associated with the Internal Labor Costs, External Resource Costs, Administrative & Employee Expenses, and Backfill



Nodal Timeline



CMM/NMMS Tracking Milestone Slips

- **CMM**
 - Excessive defects found in custom components delivered in July
 - CMM 4.1 custom components required for end-to-end testing will be delivered on-time
 - Key functionality: Credit monitoring (8 custom components)
 - ERCOT will complete CMM 4.2 custom components in house and deliver by February 2010
 - Key functionality: Internal reports, report management
 - CMM 4.3's components rolled into 4.1 and 4.2
- **NMMS 7**
 - One week delay exiting FAT due to testing-resource constraints (due June 23, delivered June 30)

Milestones Performance

Tracking Milestones Planned						June 2009	
Proj	Name	%	Baseline	Forecast	Actual	Variance	
Data	First Release of Common Data Set - DSV 1.0.0.0	100%	06/01/09	06/01/09	06/01/09	0 days	
CRR	Final Updates to Transition Plan Complete	100%	06/01/09	06/16/09	06/16/09	11 days	
EMS	EMS 6.3.1.x FAT Complete	100%	06/02/09	05/04/09	05/04/09	-20 days	
NMMS	Modeling Guidelines Complete	100%	06/05/09	06/18/09	06/18/09	9 days	
NMMS	Performance Testing of Training Environment Complete	100%	06/04/09	06/12/09	06/12/09	6 days	
NMMS	Start Training for MP's	100%	06/23/09	06/23/09	06/23/09	0 days	
OS	2.1.4.0 OS FAT Testing Complete	100%	06/15/09	05/14/09	05/14/09	-21 days	
MIS	Dashboard Group 2 Portal Components Complete	0%	06/26/09	07/15/09	Delayed	12 days	
COMS CMM	CMM 4.2 FAT Test Execution Complete	0%	06/24/09	07/31/09	Delayed	26 days	
EIP	Integration Smoke Test of Adapters Complete	100%	06/19/09	06/19/09	06/19/09	0 days	
E2E	Framework Established & Communicated to Team	100%	06/29/09	06/23/09	06/23/09	-4 days	
EDS	Publish MMS Validation Rules Document	100%	06/01/09	06/01/09	06/01/09	0 days	
EDS	Open Submission of Simple Cycle Greater Than 90MW	100%	06/30/09	06/30/09	06/30/09	0 days	

- 11 of 13 tracking milestones for May completed
- Please see following slide for variance report

Tracking Milestones Planned						July 2009	
Proj	Name	%	Baseline	Forecast	Actual	Variance	
DSV	Release DSV 1.1.0.0	0%	07/03/09	07/14/09	NA	7 days	
MMS	Deliver MMS5: Preliminary Release to iTest	100%	7/10/09	7/7/09	7/7/09	-3 days	
MMS	MMS5 Patch 1 Released to FAT	100%	7/10/09	6/18/09	6/18/09	-16 days	
MIS	MIS Build 13 Start	0%	7/20/09	7/20/09	NA	0 days	
COMS CMM	CMM 4.3 FAT Execution Complete	0%	7/1/09	7/31/09	NA	21 days	
EIP	EIP.WS1.1.19A Delivery Complete	0%	7/23/09	7/23/09	NA	0 days	
E2E	Framework Established & Approved	0%	7/24/09	7/24/09	NA	0 days	
E2E	String CRR Auction Pilot Run Complete	0%	7/30/09	7/30/09	NA	0 days	
E2E	Outage Scheduler String: Test Cases Complete	0%	7/30/09	7/30/09	NA	0 days	
EDS	Publish External Interface Specification V 1.19	0%	7/13/09	7/13/09	NA	0 days	
EDS	Sandbox Release for External Interface Specification V 1.1	0%	7/13/09	7/13/09	NA	0 days	
EDS	Complete Submission of Simple Cycle Less Than or Equal	0%	7/31/09	7/31/09	NA	0 days	
ORT	Security Testing Scope of Work Completed	0%	7/15/09	7/7/09	NA	6 days	
ORT	NMMS Final Run Book Completed	0%	7/30/09	7/30/09	NA	0 days	

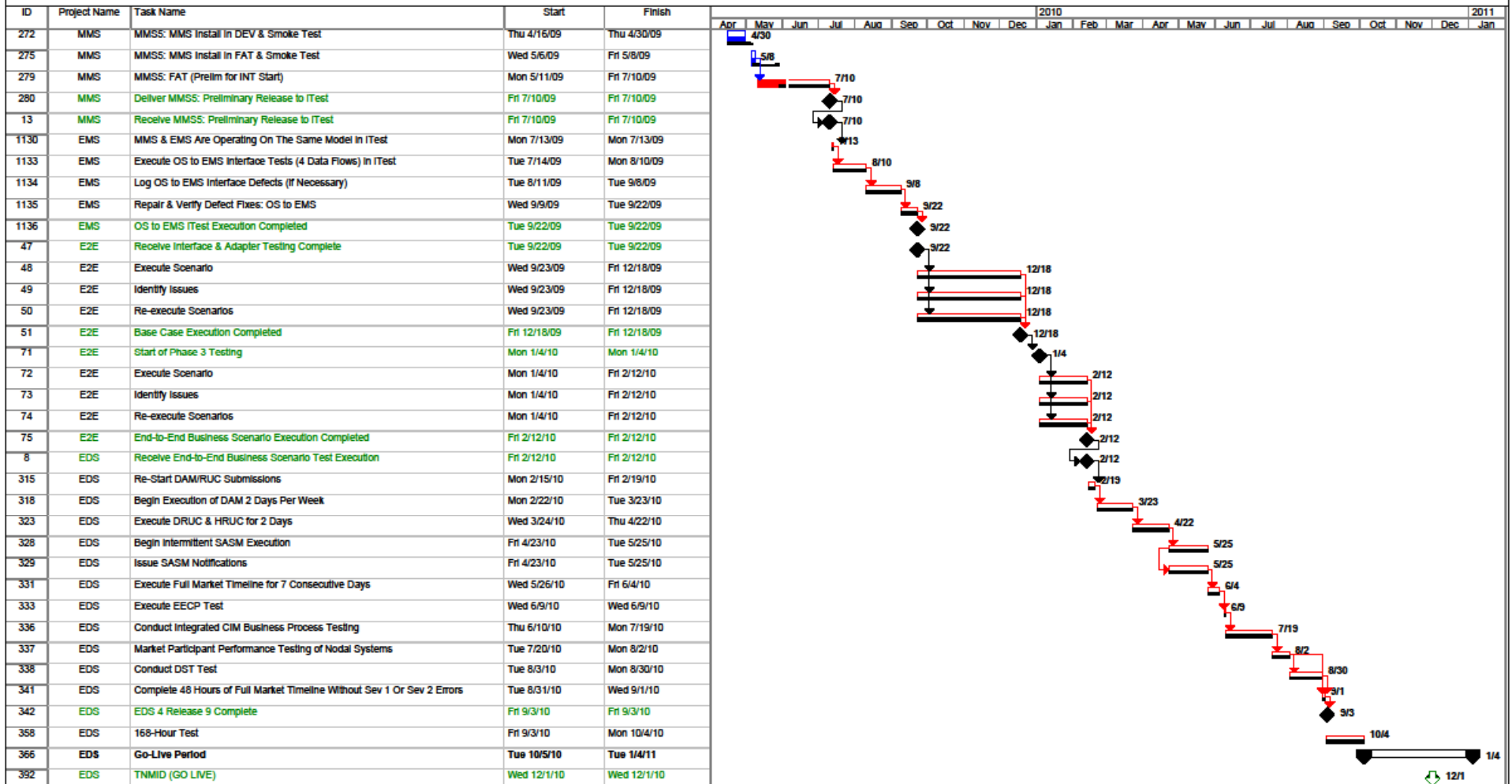
- 14 tracking milestones scheduled for June

Milestone Variance Analysis – June Tracking Milestones

Issue	Details	Schedule	Budget
MIS – Dashboard Group 2 Portal Components Complete	<ul style="list-style-type: none"> Database access issues & some data not in the expected format 	No impact to critical path	No impact to budget
COMS CMM – CMM 4.2 FAT Test Execution Completed	<ul style="list-style-type: none"> High number of defects in software caused additional time and additional testing cycles 	No impact to critical path	\$254K impact to initial budget

Nodal Program Critical Path

Nodal IPS - Critical Path



Project: Nodal Program
Date: Fri 6/5/09

Task		Critical Task Progress		Summary		Rolled Up Milestone		Rolled Up Progress
Task Progress		Baseline		Rolled Up Task		Baseline Summary		Deadline
Critical Task (20d)		Milestone		Rolled Up Critical Task		Rolled Up Baseline Milestone		



Near Critical Path Work Stream Status (1 of 2)

Total Slack- Week days	Finish Variance- Week days	R/Y/G	Project	Work-flow Description	Analysis	Corrective Action Plan
7 days	30+ days	R	COMS - CMM	CMM Releases	Could impact downstream activities if CMM continues to slip	See attached explanation
0 days	0 days	Y	MMS	MMS5	Preliminary Release of MMS5 is on critical path... Completed Early: 7/7	Completed Early: 7/7
0 days	0 days	Y	EMS	OS to EMS Interface Testing	The Preliminary Release of MMS5 drives the OS to EMS Interface. The completion of this Interface drives E2E testing, putting it on critical path	On schedule but monitor closely
0 days	0 days	Y	End to End	E2E Testing	E2E Testing is driven by the completion of the last Interface and then drives Market Trials, putting it on critical path	On schedule but monitor closely
3 days	32 days	Y	EMS	EMS to EDW Interface Testing	EDW Testing moved out for N-Prod	Monitor Closely
5 days	57 days	Y	MMS	Market Manager UI FAT Delivery to iTest	Added 2 FAT Correction Cycles	Monitor Closely
5 days	2 days	Y	COMS CMM	MMS to CMM Interface Testing	Minimal slips but low total Slack	Monitor Closely: Added Resources to CMM team
9 days	53 days	Y	COMS CMM	CRR to CMM Interface Testing	Delays from CMM core schedule	Monitor Closely: Added Resources to CMM team
10 days	3 days	Y	CRR	CRR to MIS Interface Testing	Minimal slips but low total Slack	Monitor Closely
11 days	3 days	Y	EMS	EMS to EWS Interface Testing	Minimal slips but low total Slack	Monitor Closely
11 days	33 days	Y	CRR	NMMS to CRR - 2 Interfaces Interface Testing	NMMS 6 delay entering iTest from FAT	Monitor Closely
11 days	45 days	Y	MMS	MPIM to MMS Interface Testing	iTesting moved to align with the MMS5 delivery MMS late delivering EIP Requirements for the Design	Monitor Closely
15 days	53 days	Y	EIP/MMS	EIP: NMMS-MMS CCT Design		Monitor Closely
15 days	11 days	Y	MMS	CMM to MMS Interface Testing	iTesting moved to align with the MMS5 delivery MMS late delivering EIP Requirements for the Design	Monitor Closely
15 days	16 days	Y	MMS	NMMS (CCT) to MMS Interface Testing		Monitor Closely
16 days	15 days	Y	MMS	NMMS to MMS Interface Testing	iTesting moved to align with the MMS5 delivery	Monitor Closely
17 days	1 day	Y	EMS	EMS to PI Interface Testing	Minimal slips but low total Slack	Monitor Closely
17 days	12 days	Y	EMS	EMS to CDR (EMS-CDR Reports) Interface Testing	Test scripts/cases have been prioritized to accommodate the I/A test schedule	Monitor Closely
17 days	2 days	Y	COMS S&B	NMMS to S&B Interface Testing	Minimal slips but low total Slack	Monitor Closely

Near Critical Path Work Stream Status (2 of 2)

Total Slack- Week days	Finish Variance- Week days	R/Y/G	Project	Work-flow Description	Analysis	Corrective Action Plan
1 day	0 days	G	COMS S&B	LODESTAR EXECUTION	On schedule to baseline	None required
5 days	-10 days	G	OS	EWS to OS Interface Testing	Currently forecasted ahead of schedule	None required
5 days	-5 days	G	COMS S&B	MMS to S&B Interface Testing	Currently forecasted ahead of schedule	None required
5 days	-7 days	G	OS	OS to MIS/CDR Interface Testing	Currently forecasted ahead of schedule	None required
8 days	0 days	G	OS	EMS to OS Interface Testing	On schedule to baseline	None required
8 days	-18 days	G	CRR	CMM to CRR - ACL for CRR Account Holders Interface Testing	Currently forecasted ahead of schedule	None required
10 days	-2 days	G	COMS S&B	EMS to S&B Interface Testing	Currently forecasted ahead of schedule	None required
12 days	-8 days	G	MMS	EWS to MMS Interface Testing	Currently forecasted ahead of schedule	None required
13 days	-12	G	EDW	OS Related Reports	Currently forecasted ahead of schedule.	None required
14 days	-3 days	G	OS	MMS to OS Interface Testing	Currently forecasted ahead of schedule	None required
15 days	0 days	G	COMS S&B	CRR to S&B Interface Testing	On schedule to baseline	None required
16 days	0 days	G	EMS - Areva	Preparation of Zonal Seed for Validation Sem Go-Live	Delivery drives NMMS SEM Go-Live	Monitor Closely
16 days	0 days	G	NMMS	Zonal Seed for Sem Go-Live	On schedule to baseline	Monitor Closely
16 days	0 days	G	MMS	REG to MMS Interface Testing	On schedule to baseline	None required
16 days	-13 days	G	OS	NMMS to OS Interface Testing	Currently forecasted ahead of schedule	None required
17 days	0 days	G	OS	OS to EDW nterface Testing	On schedule to baseline	None required
17 days	0 days	G	OS	OS to EDW Interface Testing	On schedule to baseline	None required
17 days	-1 day	G	MMS	S&B to MMS Interface Testing	Currently forecasted ahead of schedule	None required
17 days	-11 days	G	CRR	CMM to CRR - Bilateral Market Interface Interface Testing	Currently forecasted ahead of schedule	None required
18 days	-19 days	G	EMS	EMS to MIS Interface Testing	Currently forecasted ahead of schedule	None required
18 days	-5 days	G	MMS	MMS to EDW Interface Testing	Currently forecasted ahead of schedule	None required
19 days	0 days	G	EMS	MMS to EMS Interface Testing	On schedule to baseline	None required
19 days	-3 days	G	MMS	EMS to MMS Interface Testing	Currently forecasted ahead of schedule	None required

Significant Accomplishments

- **All Vendor Software Deliveries Complete**
 - MMS 5 delivered to iTest July 7 (3 days ahead of schedule)
 - EMS 6 delivered to iTest July 1
 - NMMS 7 exited FAT June 30
- **SEM Go-Live on Track for August 31**
- **Vendor Contract Re-Negotiations**
 - 5 targeted vendor contracts re-negotiated
 - Results:
 - Lower rates through Dec 2010
 - More ERCOT control and oversight
 - Cleaned up unfavorable language in contractual documents

Market Systems Update

Project	Sub-Project	Status	Open Critical Defects June 12/July 2			
MMS		<ul style="list-style-type: none"> • On schedule • MMS 5 final release; currently in FAT and scheduled to exit Aug. 21 • MMS 5 Patch 1 preliminary drop to iTest July 7 (scheduled July 10) • 14 interfaces to test by Sept. 1; test planning underway • Market Manager UI to exit FAT July 16 	MMS5			
			Sev 1s	0	1	▲
			Sev 2s	3	3	
			Sev 3s	85	79	▼
CRR		<ul style="list-style-type: none"> • On schedule • CRR 1.9 final release; currently in FAT and scheduled to exit Aug. 31 • 3 of 9 interfaces in iTest, 2 in FAT, 4 in execution phase 	CRR 1.9			
			Sev 1s	0	0	
			Sev 2s	1	0	▼
			Sev 3s	3	2	▼
COMS	CMM	<ul style="list-style-type: none"> • Behind schedule • CMM 4.1 in FAT; on schedule to exit July 31 • Two CMM 4.2 components scheduled to exit FAT by July 31; remaining components combined with CMM 4.3 and to exit FAT February 2010 (internal functions only) • 4 of 5 interfaces currently in iTest • Outstanding release: CMM 4.2 	CMM 4.1			
			Sev 1s	0	0	
			Sev 2s	151	84	▼
			Sev 3s	46	21	▼
	S&B	<ul style="list-style-type: none"> • FAT testing complete; 7 of 8 interfaces currently in iTest • Targeting refactoring completion by September 2009 	Sev 1s	0	0	
Sev 2s			3	0	▼	
Sev 3s			20	2	▼	
	CSI	<ul style="list-style-type: none"> • FAT testing complete • Targeting refactoring completion by August 2009 	Sev 1s	0	0	
Sev 2s			0	0		
Sev 3s			29	35	▲	
	REG	<ul style="list-style-type: none"> • Nearing completion • All 3 interfaces currently in iTest; 96% of testing complete 	Sev 1s	0	0	
Sev 2s			0	0		
Sev 3s			1	0	▼	

Reliability Systems Update

Project	Status	Open Critical Defects June 12/July 2			
NMMS	<ul style="list-style-type: none"> On schedule NMMS 7 final release; exited FAT June 30 All 3 interfaces have exited FAT and are currently in iTest 	NMMS 7			
		Sev 1s	0	0	
		Sev 2s	0	0	
		Sev 3s	83	48	▼
EMS	<ul style="list-style-type: none"> On schedule EMS 6 Patch 3 deployed to iTest July 1 All 13 interfaces' test plans now complete SPR Patch 3 completed FAT June 30 	SPR Patch 3			
		Sev 1s	0	0	
		Sev 2s	1	0	▼
		Sev 3s	83	86	▲
OS	<ul style="list-style-type: none"> On schedule Common test plan for 12 of 13 interfaces complete 2 defect patches planned for OS UI 	OS 2.1.4			
		Sev 1s	0	0	
		Sev 2s	0	1	▲
		Sev 3s *	3	71	▲
* excluding ROO defects					

Market Verification Update

Project	Status	Open Critical Defects June 12/July 2			
Interface/Adapter Testing	<ul style="list-style-type: none"> Data management strategy undergoing review and approval System-to-system testing of connectors in progress using Common Data Set MMS 5 available for I/A testing Level 1/Level 2 testing running behind, but working on efficiency gains in automation areas, early Level 3 testing and other adjustments 	FAT Defects			
		Sev 1s	1	3	▲
		Sev 2s	26	129	▲
		Sev 3s	375	496	▲
		iTest Defects			
		Sev 1s	1	2	▲
		Sev 2s	84	87	▲
		Sev 3s	52	127	▲
End-to-End Testing	<ul style="list-style-type: none"> Early E2E testing started with CRR auction settlement Additional E2E testing planned in July (7 functional strings in total) Full E2E to start in late September 				
Market Trials	<ul style="list-style-type: none"> Detailed plan to be rolled out at August TAC meeting SEM Go-Live training for TSPs began June 23 Market Trials submission testing begins in October 2009 				
Market Readiness	<ul style="list-style-type: none"> In detailed planning phase 				
ERCOT Readiness	<ul style="list-style-type: none"> In detailed planning phase 				
Operational Readiness	<ul style="list-style-type: none"> Schedule is being finalized NMMS performance testing under way System cutover validation and implementation under way 				

Integrated Testing Update

Connectors to be Tested: 82			
	Definition	In Progress	Completed
Level 1	Connector installed; one record transferred through connector ("smoke test")	2	68
Level 2	Connector tested using a common data set with multiple records	11	9
Level 3	System-to-system functional test; connector tested with system-generated data	7	0

Scheduled Completion:

- **Sept. 22, 2009 (Levels 1-2)**
- **Nov. 13, 2009 (Level 3)**

Status: On Schedule

Risks & Issues to Achieving Nodal's Major Milestones

- ◆ **Complete Integrated Systems (2-12-10)**
 - Issue: Resource constraints for program
 - Issue: Handling CMM delays for program

- ◆ **Market Trials (2-12-10)**
 - Risk: Reconciling protocols, systems and market expectations

- ◆ **Nodal Go-Live (12-1-10)**
 - Risk: Data Center capacity concerns
 - Risk: Integrity of network model data from market participants

External Audit Status Summary

Audit	Audit Points Identified	Audit Points in Execution	Date to Complete Last Point
IBM Report 7	4	1	12/31/09
Utilicast Report 8	6	1	2011
Utilicast Report 10 (Morgan)	10	2 in progress; 8 complete	7/31/09
Utilicast Report 10 (Cleary)	13	7 in progress; 6 complete	9/17/09
Utilicast Report 10 (Capezzuti)	1	1 in progress	9/14/09

Program Review & Control

- **Traceability**
 - Protocols  Requirements

Prioritization of the effort into tiers

- Tier 1 (Significant/high volume of changes): 3, 4, 5, 6, 7, 8, 9, 16, 17
- Tier 2 (Moderate): 10, 11, 12, 13, 20, 22
- Tier 3 (Low impact): 1, 2, 14, 15, 18, 19, 21, 23, 24
 - Identify alignment issues
 - First-level analysis: Bob Spangler, Floyd Trefny
 - Meet with business owners for validation
 - Provide information to ERCOT Readiness Team for reporting
 - 7: ERCOT to review late July
 - 3, 4, 5, 6: ERCOT to review Sept./Oct.
 - 8, 9, 16, 17: ERCOT to review Oct./Nov.



Financial Review

Special Nodal Program Committee

20 July 2009

June Actuals to be Presented At Committee Meeting

Questions ?

Appendix

Program Issue: Handling CMM Delays for Nodal Program

◇ Potential Milestone Impact: Complete Integrated Systems

Issue: Handling CMM Delays		Delays in completing the detailed requirements and designs for CMM have occurred because of turnover in both ERCOT and vendor staff. There are limited business resources allocated to complete creation of requirements and to perform reviews.		
Issue Life Cycle State				
Plan	Manage			
Mitigation Plans		Who	Target Date	Current Status
1. Break the definition and development of remaining CMM capability into incremental releases. Modify contract with vendor to fit the approach.		H. Parrish	Contract revisions in process	6/19/09 SOW was executed this week 6/12/09 Have agreement on an amendment to the SOW with Triple Point, expect signature next week
2. Identify ERCOT business resources to ensure the plan can be executed.		H. Parrish		6/5/09 2 backfill positions filled 4/17/09 2 additional Credit FTE resources are participating in testing. Business to have at least 2 backfill.
3. Identify vendor resources to ensure the plan can be executed.		H. Parrish	As needed	6/29/09 Triple Point staff coming to ERCOT site, to fix defects found during testing 5/7/09 ERCOT on site at Triple Point, providing PM oversight and 2 testers for pre-FAT
4. Receive software and perform FAT in increments, to keep overall program on schedule.		H. Parrish	7/08/09	6/29/09 Increments needed for end-to-end testing will be complete by end of July, with other changes delivered by Feb. 2010. 5/15/09 Deliveries of software scheduled from through 5/26/09, with testing incrementally to 7/17/09

ERCOT-Wide Issue: Zonal Resource Constraints for Nodal Program

◇ Potential Milestone Impact: Complete Integrated Systems

Issue: Zonal Resource Constraints for Nodal Program		Because the Nodal go-live date has been delayed, there are a number of Zonal projects, PRRs, and IMM suggestions for Zonal improvements that result in resource constraints for the Program.		
Issue Life Cycle State				
Plan	Manage			
Mitigation Plans		Who	Target Date	Current Status
1. Manage list of PRRs and SCRs to a resource plan that uses a strategy to avoid impacting program personnel resources when delivering additional Zonal enhancements.		D. Forfia D. Troxtell	Ongoing	6/19/09 – Comprehensive round of EAC reviews have been conducted with all Nodal projects 5/15/09 – Meetings were held, to review EACs with Mike Cleary and Janet Ply, with updates made
2. Manage Project Priority List (PPL) with clear view of resources needed for any projects in flight or about to be launched, with a strategy to avoid impact on Nodal personnel resources.		D. Forfia D. Troxtell	Ongoing	6/17/09 – Solution has been established to be used for monthly data analysis and resolution of resource constraints. In the process, effort hours are gathered for Zonal projects, Nodal work, and Base work. Over-allocations are determined, and meetings are held to resolve.

Program Risk: Reconciling Protocols, Systems and Market Expectations

◇ Potential Milestone Impact: Market Trials

Risk: Reconciling Protocols, Systems and Market Expectations				Experience with deploying nodal markets by other ISOs has shown that expectations of the market participants are often missed, despite best efforts at defining tariffs or protocol requirements. ERCOT needs to assume such a risk exists for this nodal implementation as well.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
1. Assess maturity and readiness of software in the initial nodal release, focusing on new/tailored capability for Texas Nodal.				Nodal Project Managers	7/1/09	4/13/09 Program is planning the assessment activities.
2. Add team members to the nodal program with Texas market experience to ensure readiness for Market Trials. Have them assess completeness of requirements addressed by the software new/tailored for the Texas nodal market and participate in end-to-end testing.				J. Ply	8/1/09	6/5/09 – Two team members are on board who have Texas market expertise. Both are working in Betty Day's team on tracing completeness of the program implementation and identifying gaps
3. Keep the oversight groups apprised of progress.				M. Cleary	Ongoing	4/13/09 Risk incorporated into the set being reported externally; will be maintained actively.

ERCOT-Wide Risk: Data Center Capacity Concerns

◇ Potential Milestone Impact: Nodal Go-Live

Risk: Data Center Capacity Space Concerns				Data center capacity, space, and power may be inadequate for Nodal go-live, unless plans for expansion are adequate.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
1. Establish an Information Lifecycle Management approach, to manage the life cycle of data being managed.				D. Forfia	Implementation ongoing	3/31/09 ILM Roadmap has been completed by SAIC, and next planning activities underway ERCOT project PR 90006_01 Commercial Systems Information Lifecycle Management: Project
2. Expand current data center space, and build out new data center, to increase ERCOT data center capacity.				D. Forfia	TCC1 build out complete 9/09 South DC in production Feb 2011 TCC3 in production May 2011	7/1/09 Preparations are underway to break ground for TCC3, with completion expected in September 2010. 6/12/09 Construction for TCC1 build out is underway and is ahead of schedule
3. Validate and monitor Nodal data capacity assumptions for Go Live				D. Forfia	Plan: May 2009 Analysis: to complete 7/15/09	6/12/09 Plan is in execution, with status report to Executive Team on 6/16/09

Program Risk

Integrity of Network Model Data from Market Participants

◇ Potential Milestone Impact: Nodal Go-Live

Risk: The model of the physical network inhibits healthy economic signals to the market				Some market participants may not populate the network model with all required transmission element data and attributes. This inaccurate model may not solve, or it may create erroneous solutions. This can make the nodal systems appear to be functioning improperly.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
After Single Entry Model Go-Live, ERCOT will engage TSPs to validate the network model, in preparation for Market Trials				M. Mereness	September, 2009 through February, 2010	6/9/09 ROS and NDSWG are being engaged to determine the activities required during this validation period
Each TSP will confirm that they have populated the model with data that is complete and accurate, and that they are prepared to transition to the Nodal Protocol timeline for updates.				V. Gates M. Mereness	February, 2010	Plans TBD
ERCOT will work with market participants to review the quality of solutions with the model data and identify areas in which data accuracy needs to be improved.				V. Gates M. Mereness	February, 2010 through December, 2010	Plans TBD

External Audit Status Summary

Audit	Audit Points Identified	Audit Points in Execution	Date to Complete Last Point
IBM Report 7	4	1	12/31/09
Utilicast Report 8	6	1	2011
Utilicast Report 10 (Morgan)	10	2 in progress; 8 complete	7/31/09
Utilicast Report 10 (Cleary)	13	7 in progress; 6 complete	9/17/09
Utilicast Report 10 (Capezzuti)	1	1 in progress	9/14/09

Audit Points to Address from Utilicast Report 8

ID	Description	Action Plan	Responsible Manager	Target Date
UT108-05	There should be immediate investment in new data center capacity to allow for expansion of IT infrastructure to support the Nodal Program.	A project has been initiated to expand the data center in Taylor (PR-80047). Planned occupancy date is September 2009, with plan to add or move hardware under development. Additional data center space planned as part of the Met Center disposition project (PR-80001). Those data centers should be online in early 2011. Plans are under development to provide capacity prior to those new data centers becoming available.	Jeff Floyd	Early 2011

Audit Points to Address from Utilicast Report 10 – 1

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr	Target Date
UTI-10 – 01C	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	The Nodal Project Team should continue to require the implementation of ClearCase for use as the automatic code deployment tool, and the Nodal PM's should be required to use their assigned Release Coordinators to facilitate their use of the RM process.	Release Mgt (RM) Team is working with the teams to define methods for all Nodal Project teams to do auto-deployment using the standard RM process and coordinator roles by August 2009. This will be enforced by the nodal program.	M. Cleary	J. Ply	9/4/09
UTI-10 – 01D	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	The Nodal Project Teams should work with their Release Coordinators to refine their release planning processes and work toward a forecasting accuracy of +/- 20% or better.	Weekly release planning sessions began the week of 4/20/09 at both program and project level. Measurement will be done to monitor progress toward improved forecasting accuracy.	M. Cleary	J. Statz; D. Gwinn	9/4/09
UTI-10 – 02B	Information Technology Infrastructure Library	Evaluate the costs and benefits of purchasing a complete set of ITIL processes and related consulting services from one of the vendors who have pre-configured their tools to support ITIL.	This will be included as an element of the roadmap being developed for implementing ITIL V3.	R. Morgan	D. Forfia	7/3/09
UTI-10 – 04A	Taylor Data Center Expansion Project Mgt	Continue to manage the Taylor Control Center Expansion project to ensure that the additional capacity is available, as planned, by October 2009.	Expansion is underway, controlled by ERCOT facilities; no budget or schedule issues known.	N. Capezzuti	S. Grendel	9/14/09

Audit Points to Address from Utilicast Report 10 – 2

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr	Target Date
UTI-10 – 04B	Taylor Data Center Expansion Project Mgt	Continue to track and trend data center usage and available capacity to ensure that the actual usage remains within expected ranges.	Capacity planner in place, collecting data on capacity needs. Defining process for monthly review of needs.	R. Morgan	J. Floyd	7/31/09
UTI-10 – 06B	End-to-End Business Readiness Activities	Use manual triggers, or other workarounds, to string together business functions to simulate End-to-End testing. This will be particularly beneficial in areas where ERCOT has unique market rules	<p>The End-to-End (E2E) strategy will define this. Manual triggers or workarounds (documented in test scripts) will be used where necessary to execute an end-to-end or bid-to-bill test.</p> <p>Not all of ERCOT's unique market rules will be executed in E2E testing. Due to time constraints, E2E will first execute a Base Case scenario, then a select set of scenarios expected to occur frequently after go-live.</p>	J. Ply	A. Shepherd	9/17/09
UTI-10 – 06C	End-to-End Business Readiness Activities	Ensure Nodal processes and procedures are completed so they can be exercised during End-to-End testing	There is a plan for ensuring that all nodal processes and procedures that will need to be exercised during end-to-end testing are scheduled for completion prior to the execution of those processes and procedures per the end-to-end schedule.	J. Ply	M. Nixon	9/17/2009

Audit Points to Address from Utilicast Report 10 – 3

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.	Target Date
UTI – 10 – 06D	End-to-End Business Readiness Activities	Prior to End-to-End testing, complete a final review of the Protocols to compare against current system capabilities. Such reviews are underway on many of the project teams.	Consolidate the results of the review of protocols to system capabilities and identify any gaps.	J. Ply	B. Luedke	9/4/2009
UTI- 10 – 08	Contingency Plans for Failed Data Transfers	Utilicast recommends that the Nodal Program should create and execute contingency plans for failed data transfers which would include the following components: 1) Create manual workarounds for situations where interfaces fail to enable continued End-to-End operations. 2) Create procedures to correct flawed or missing data from upstream systems. The workarounds and procedures could evolve into a long-term data controls and data quality management process. 3) Utilize these tools now to support functional Integration Test while technical components are still evolving.	1. Manual workarounds will be created where needed, documented either as a part of the test script or as a defect. 2. Our common data set approach details how data will be collected, made common, released, and managed in terms of defects and modifications. 3. Other actions TBD upon clarification of this item.	J. Ply	A. Shepherd	9/17/09

Audit Points to Address from Utilicast Report 10 – 4

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.	Target Date
UTI – 10 – 09	End to End Testing Readiness Updates	The Nodal Program should provide monthly End-to-End Testing Readiness updates. Utilicast recommends that the Nodal Program provide an End-to-End Testing Readiness update each month to the Special Nodal Program Committee Meeting. To reduce the subjectivity in status reporting, the Nodal Program should report the status of End-to-End requisite components (not simply % complete of tasks). Milestones should be developed that clearly cover the entry criteria for End-to-End testing.	Progress tracking charts have been developed to show progress through the Interface and Adapter testing, per connector (interface or adapter), to complement the milestone tracking that is already underway. In addition, there are entry criteria established for End-to-End Testing which must be met before it can start. All of these comprise our readiness measures for End-to-End testing.	J. Ply	J. Statz	9/4/2009

Audit Points Complete – to be Verified - 1

ID	Description	Action Plan	Responsible Manager	Target Date
UT108-01	<p>The individual project budgets should be challenged in the following areas:</p> <ul style="list-style-type: none"> a. Vendor contracts b. Contract staff c. Internal staff 	<ul style="list-style-type: none"> a. Long –term vendor contracts will be negotiated with the assistance of a 3rd party negotiator, to address budget matters as well as others. b, c. Plans for use of contract staff, as well as the orderly transition to ERCOT teams are being examined, as we refine the schedule and plan for the remainder of the schedule 	Janet Ply	<ul style="list-style-type: none"> a) Target: 6/30/09 for contracts to be renegotiated for 5 top vendors 3/31/09 Third party has been engaged to conduct one vendor negotiation as an initial effort, to be complete 3/31 3/3/09 Have completed one review of our key contracts by an outside firm b) 3/30/09 resourcing of remaining effort shows growth in size of ERCOT teams and reduction of contract staff as testing effort is re-planned incrementally ; Program has engaged a resource manager to review all staffing.

Audit Points Complete – to be Verified – 2

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr	Target Date
UTI-10-01A	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	The Nodal PMO in conjunction with IT should ensure that proper education is provided to the Nodal PMs and new staff regarding the IT processes including contact information for those who support the IT processes.	Nodal team provides reports on incidents, from which IT does its problem management. Training was recently provided on nodal release and change management. The Access Mgt team is updating its documentation and will provide a concierge to train and assist with the process. Training on Access Mgt will be done the week of 5/4/09.	R. Morgan	D. Forfia	5/8/09 Complete; to be verified
UTI-10-01B	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	A plan will be developed to consolidate into one repository after the final releases of software are available for nodal go-live. Execution of the plan is not expected to occur until mid-2010.	A plan will be developed to consolidate into one repository after the final releases of software are available for nodal go-live. Execution of the plan is not expected to occur until mid-2010.	R. Morgan	D. Forfia	7/3/09
UTI-10-01E	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	Since the version of the IDM project scheduled to be completed by November 2009 will only support SAS 70 related environments and Active Directory, a follow-on project is recommended. This project should focus on ensuring that the remainder of the ERCOT environments will be supported by IDM at Nodal go-live	After the first phase is complete, a plan will be built for the succeeding project. It is likely to be part of the 2010 PPL.	R. Morgan	D. Forfia	4/20/09; complete; to be verified

Audit Points Complete to be Verified - 3

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr	Target Date
UTI-10 – 01F	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	Establish an IT SWAT team dedicated to the Nodal effort and focused on developing plans to mitigate the impact of potential Nodal workload waves on IT process performance.	A forecast is being built based on the nodal schedule, to establish a plan for adding contract staff to handle workload waves.	R. Morgan	D. Forfia	6/5/09; complete; to be verified
UTI-10 – 02A	Information Technology Infrastructure Library	Develop a program roadmap to guide the implementation ITIL V3 service management module with a target completion by December 2010 and assess the ability of the internal staff to support the ITIL effort while maintaining zonal operations and supporting Nodal testing and go-live.	A roadmap is under development. There are multiple projects in flight that will be synched with the roadmap, and some will need to be funded in the project list for 2010.	R. Morgan	D. Forfia	7/3/09
UTI-10 – 03A	Nodal Infrastructure Budget	The Nodal Program should continue to perform a “deep dive” on the INF project specifically focusing on challenging the work expected and the resources required to support the Nodal Program.	This is underway, as part of mapping out resource needs for all ERCOT resources - nodal and otherwise - for 2009.	R. Morgan	D. Forfia	5/29/09 ; complete; to be verified
UTI-10 – 03B	Nodal Infrastructure Budget	A reoccurring planning exercise between the INF project manager and the other Nodal project managers should occur to ensure that IT Operations and Infrastructure support requirements are more thoroughly assessed and forecasted	This is underway, as part of resource management for all ERCOT resources - nodal and otherwise. A process will be established for monthly review.	R. Morgan	D. Forfia	5/29/09 ; complete; to be verified

Audit Points Complete to be Verified – 4

ID.	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr	Target Date
UTI-10 – 05B	Vendor Performance Management	The Nodal Program should work with the vendor to expedite the release cycle and to decrease the average defect closure time. The overall process needs to be reviewed. The current process includes overhead activities that need to be streamlined to support upcoming test phases. Testing should drive the release schedule; the release schedule should not drive the testing	Changes being made to how the work is planned and tracked, to streamline the process. Incorporating these changes into re-negotiated contracts with vendors.	J. Ply	J. Statz, E. Hall	6/30/09
UTI-10 – 05C	Vendor Performance Management	The measure of defect closure time should be updated to reflect only the time spent by the vendor to correct assigned defects. The current values include contracting time, migration time and other factors that are not related to vendor performance. As introduced in Report #8, negotiations should continue with the vendors to deliver more value for the overall cost. Vendor costs continue to exceed industry peers.	Defect states will reflect changes agreed to in contract re-negotiations.	J. Ply	J. Statz, E. Hall	6/30/09
UTI-10 – 06A	End-to-End Business Readiness Activities	Establish a common test bed with data from common business days to allow data validation logic to be fully exercised.	Common Data Set Approach communicated week of 4/20. Scheduling to release first data set version (DSV) on June 1. Goal is to establish a DSV with good data for E2E prior to the start of E2E testing as well.	J. Ply	A. Shepherd	complete, to verified

Audit Points Complete to be Verified- 5

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.	Target Date
UTI-10 – 07A	Organization Assessment	A comprehensive organizational assessment should be completed to confirm that skilled staff is in place to support the Nodal Program. The objective of the assessment should be: 1) to verify that dual operations can be run and supported and 2) to confirm that ERCOT has the appropriate staff in place to support long-term Nodal Market operations.	Such an analysis has begun, in collaboration with the ERCOT HR function. A full assessment plan will be developed.	J. Ply	A. Rinaldi	7/1/09
UTI-10 – 07B	Organization Assessment	ERCOT staff should be deployed in time for End-to-End testing to take advantage of the training opportunity and to assist with the dual operation workload.	Resource plans for End-to-End testing are being identified in the resource planning spreadsheet, with appropriate ERCOT staff handling their operations roles.	J. Ply	A. Shepherd	complete, to be verified

In addition, two audit points were verified as being complete on 5/27 – UTI10-4C and UTI10-5A