Nodal Program Update

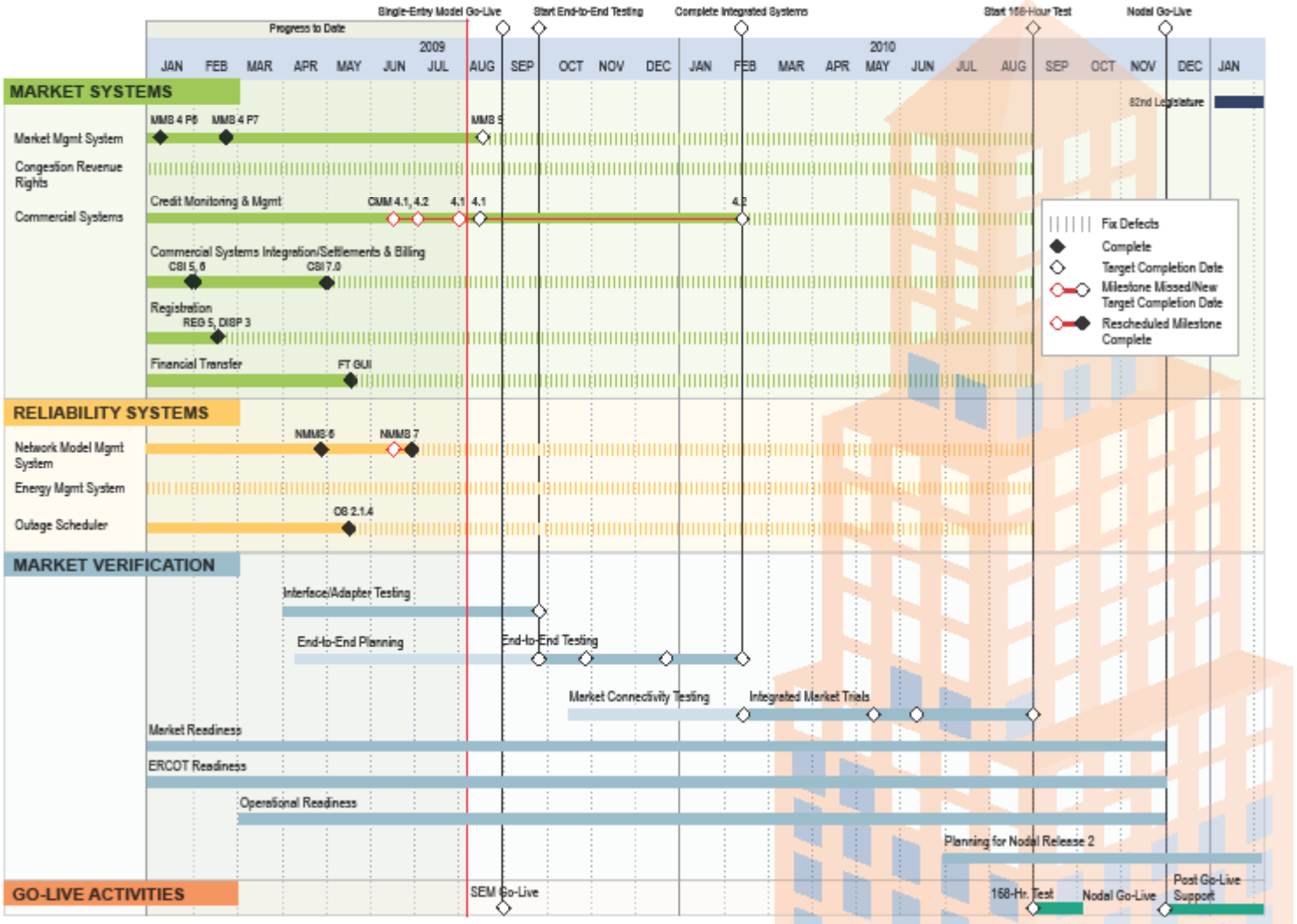
Special Nodal Program Committee

17 August 2009

Agenda

- **Nodal Update**
  - Readiness
  - Integration Testing
  - Planning
  - Traceability
- **Financial Review**
- **Appendix**

Nodal Timeline



CMM Milestone Slip

- **CMM 4.1**
  - 4 of 8 CMM 4.1 components have exited FAT
    - 2 components' FAT exit pushed back to Aug. 14
      - External Reports
      - Custom Calculation Management
    - Scorecard FAT exit targeted for Aug. 5
    - Vendor re-work will push Twelve Trailing Month to Aug. 31
  - Good progress made working through excessive defects found in custom components delivered in July
  - CMM Phase II work has begun concurrently
  - CMM focus on testing, defect remediation for components required for End-to-End Testing
  - No impact to End-to-End schedule

Milestones Performance

Tracking Milestones Planned — July 2009

Proj	Name	%	Baseline	Forecast	Actual	Variance
DSV	Release DSV 1.1.0.0	100%	7/3/09	7/14/09	7/14/09	7 days
MMS	Deliver MMS5: Preliminary Release to iTest	100%	7/10/09	7/8/09	7/8/09	-2 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	100%	7/20/09	7/20/09	7/20/09	0 days
COMS CMM	CMM 4.1 FAT Execution Complete	0%	7/1/09	8/14/09	Delayed	31 days
EIP	EIP.WS1.1.19A Delivery Complete	100%	7/23/09	7/23/09	7/23/09	0 days
E2E	Framework Established & Approved	0%	7/24/09	8/7/09	Delayed	10 days
E2E	String CRR Auction Pilot Run- Planning Complete	100%	7/7/09	7/7/09	7/7/09	0 days
E2E	Create Test Cases: OS String	100%	7/28/09	7/27/09	7/27/09	-1 day
EDS	Publish External Interface Specification V 1.19	100%	7/13/09	7/13/09	7/13/09	0 days
EDS	Sandbox Release for External Interface Specification V 1.19	100%	7/13/09	7/13/09	7/13/09	0 days
EDS	Complete Submission of Simple Cycle Less Than or Equal to	100%	7/31/09	7/31/09	7/31/09	0 days
ORT	Security Testing Scope of Work Completed	100%	7/7/09	7/15/09	7/15/09	6 days
ORT	NMMS Final Run Book Completed	0%	7/30/09	8/14/09	Delayed	11 days

Tracking Milestones Planned — August 2009

Proj	Name	%	Baseline	Forecast	Actual	Variance
MMS	MMS5: Completed Final FAT	0%	8/21/09	8/21/09	NA	0 days
NMMS	SEM Cut Over (Go Live)	0%	8/31/09	8/31/09	NA	0 days
MIS	MIS Build 12 Complete	0%	8/10/09	8/21/09	NA	9 days
EIP	EWS 1.19 Enhancements Completed	0%	8/6/09	8/20/09	NA	10 days
EIP	EIP Adapters Complete	100%	8/10/09	6/19/09	6/19/09	-35 days
E2E	OS String String Test Complete	0%	8/3/09	8/3/09	NA	0 days
E2E	EWS/October Market Trial String Test Iteration 1 Complete	0%	8/28/09	8/28/09	NA	0 days
E2E	DAM String Test Iteration 1 Complete	0%	8/17/09	8/17/09	NA	0 days
E2E	DAM String Test Iteration 2 Complete	0%	8/21/09	8/21/09	NA	0 days
ORT	Base System Monitoring for SEM Go Live Completed	0%	8/28/09	8/28/09	NA	0 days
ORT	MP Connectivity Performance Tuning Completed	0%	8/20/09	8/20/09	NA	0 days
ERT	Publish ERCOT Readiness Plan	0%	8/12/09	8/12/09	NA	0 days
ERT	Publish Master Process & Procedure (PnP) Inventory	0%	8/5/09	8/5/09	NA	0 days
ERT	Nodal Transition Plan (Market Readiness Approach) Published	0%	8/26/09	8/26/09	NA	0 days

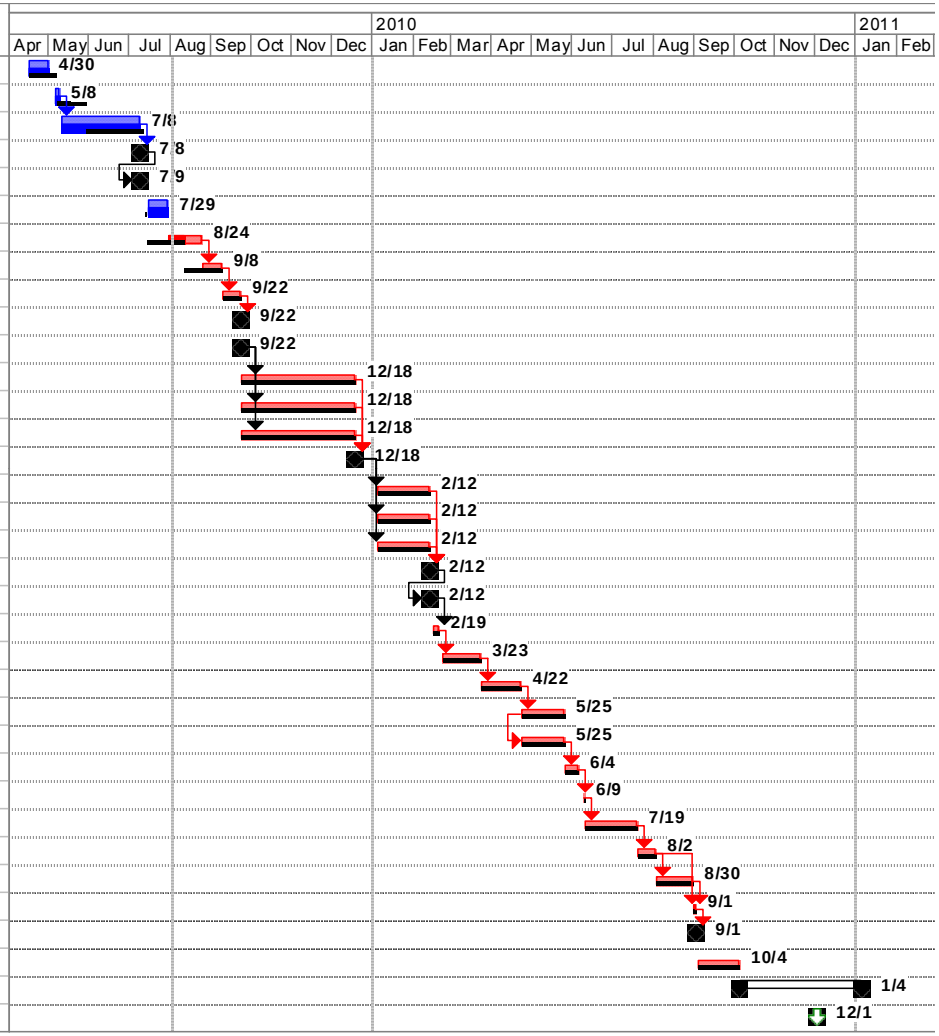
- 11 of 14 tracking milestones for July completed
- Please see following slide for variance report
- 14 tracking milestones scheduled for August

Milestone Variance Analysis: June Tracking Milestones

Issue	Details	Schedule	Budget
COMS CMM – CMM 4.1 FAT Test Execution Completed	•Defect levels in software from vendor caused additional time and additional cycles of testing	No impact to critical path	No impact to budget
E2E – Framework Established & Approved	• E2E Strategy Document Pending Formal Approval & Signatures	No impact to critical path	No impact to budget
ORT – NMMS Final Run Book Complete	• OPS Resource Constraint	No impact to critical path	No impact to budget

Nodal Program Critical Path

ID	Project Name	Task Name	Start	Finish
263	MMS	MMS5: MMS Install in DEV & Smoke Test	Thu 4/16/09	Thu 4/30/09
266	MMS	MMS5: MMS Install in FAT & Smoke Test	Wed 5/6/09	Fri 5/8/09
270	MMS	MMS5: FAT (Prelim for INT Start)	Mon 5/11/09	Wed 7/8/09
271	MMS	Deliver MMS5: Preliminary Release to iTest	Wed 7/8/09	Wed 7/8/09
12	MMS	Receive MMS5: Preliminary Release to iTest	Thu 7/9/09	Thu 7/9/09
1056	EMS	MMS & EMS Are Operating on the Same Model in iTest	Wed 7/15/09	Wed 7/29/09
1059	EMS	Execute OS to EMS Interface Tests (4 Data Flows) in iTest	Thu 7/30/09	Mon 8/24/09
1060	EMS	Log OS to EMS Interface Defects (if Necessary)	Tue 8/25/09	Tue 9/8/09
1061	EMS	Repair & Verify Defect Fixes: OS to EMS	Wed 9/9/09	Tue 9/22/09
1062	EMS	OS to EMS iTest Execution Completed	Tue 9/22/09	Tue 9/22/09
244	E2E	Receive Interface & Adapter Testing Complete: P2-Base Case Test	Tue 9/22/09	Tue 9/22/09
245	E2E	Execute Tests: P2-Base Case Test	Wed 9/23/09	Fri 12/18/09
246	E2E	Identify Issues: P2-Base Case Test	Wed 9/23/09	Fri 12/18/09
247	E2E	Re-execute Tests: P2-Base Case Test	Wed 9/23/09	Fri 12/18/09
248	E2E	Phase 2 Base Case Execution Completed	Fri 12/18/09	Fri 12/18/09
269	E2E	Execute Scenario: P3-Test	Mon 1/4/10	Fri 2/12/10
270	E2E	Identify Issues: P3-Test	Mon 1/4/10	Fri 2/12/10
271	E2E	Re-execute Scenarios: P3-Test	Mon 1/4/10	Fri 2/12/10
272	E2E	End-to-End Business Scenario Execution Completed	Fri 2/12/10	Fri 2/12/10
7	EDS	Receive End-to-End Business Scenario Test Execution	Fri 2/12/10	Fri 2/12/10
309	EDS	Re-Start DAM/RUC Submissions	Mon 2/15/10	Fri 2/19/10
312	EDS	Begin Execution of DAM 2 Days Per Week	Mon 2/22/10	Tue 3/23/10
317	EDS	Execute DRUC & HRUC for 2 Days	Wed 3/24/10	Thu 4/22/10
322	EDS	Begin Intermittent SASM Execution	Fri 4/23/10	Tue 5/25/10
323	EDS	Issue SASM Notifications	Fri 4/23/10	Tue 5/25/10
325	EDS	Execute Full Market Timeline for 7 Consecutive Days	Wed 5/26/10	Fri 6/4/10
327	EDS	Execute EECP Test	Wed 6/9/10	Wed 6/9/10
330	EDS	Conduct Integrated CIM Business Process Testing	Thu 6/10/10	Mon 7/19/10
331	EDS	Market Participant Performance Testing of Nodal Systems	Tue 7/20/10	Mon 8/2/10
332	EDS	Conduct DST Test	Tue 8/3/10	Mon 8/30/10
335	EDS	Complete 48 Hours of Full Market Timeline Without Sev 1 or Sev 2 Erro	Tue 8/31/10	Wed 9/1/10
336	EDS	EDS 4 Release 9 Complete	Wed 9/1/10	Wed 9/1/10
351	EDS	168-Hour Test	Fri 9/3/10	Mon 10/4/10
359	**EDS**	**Go-Live Period**	**Tue 10/5/10**	**Tue 1/4/11**
385	EDS	TNMID (GO LIVE)	Wed 12/1/10	Wed 12/1/10



Baseline Variance Analysis on Critical Path

Issue	Details	Schedule	Recovery
DSV Model Error for EMS	• These are resolved now and are back on track	Slipped the OS to EMS Interface Test	Tested OS to EMS with a similar DSV model, which confirmed no Interface connectivity or data flow issues.

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	Monitor Closely
15 days	53 days	Y	EIP/MMS	EIP: NMMS-MMS CCT Design	MMS late delivering EIP Requirements for the Design	Monitor Closely
15 days	11 days	Y	MMS	CMM to MMS Interface Testing	iTesting moved to align with the MMS5 delivery	Monitor Closely
15 days	16 days	Y	MMS	NMMS (CCT) to MMS Interface Testing	MMS late delivering EIP Requirements for the Design	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	
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

Market Readiness

Vikki Gates

Special Nodal Program Committee

17 August 2009

Readiness Update

- **Scope consolidation complete**
  - Market Participant readiness
    - Outreach
    - Market Training
  - ERCOT readiness
    - Process and Procedures
    - Internal Training
    - NERC Standards Review
  - Metrics
- **Mobilizing resources**

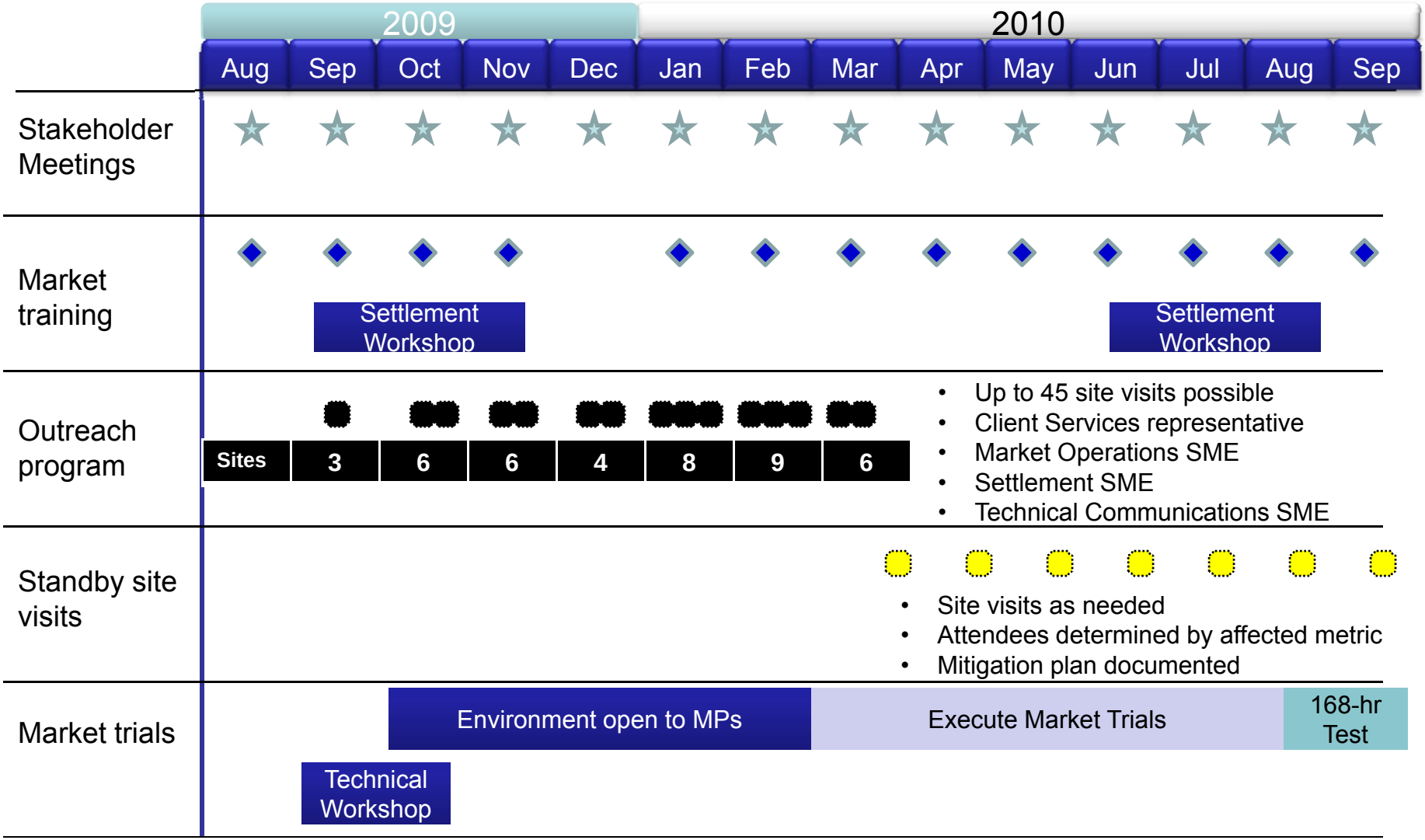
Key points

- **Positive momentum and collaboration across the entire program**
  - Market collaborating to achieve the same goal: the nodal market
  - Tight integration between readiness effort and execution teams
- **Readiness is an interrelated effort**
  - The “readiness” project is a small part of achieving overall market readiness
- **Our roles have shifted from requirement iterations to a partnership of taking the market live**
  - Increased and new opportunities for Market Participant collaboration
  - Defined point of contact for readiness effort
  - Building our readiness effort in response to market feedback

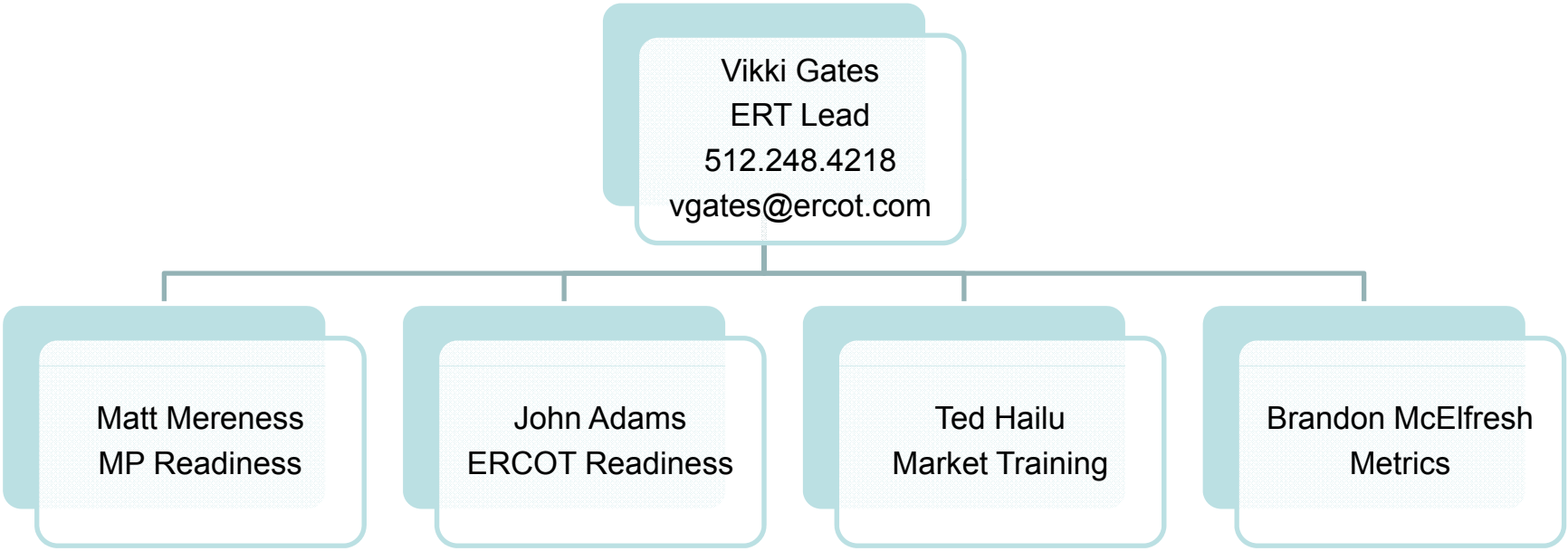
Readiness Touch points

	Timing	Method
Stakeholder meetings	• Scheduled meetings • Topic based workshops	• TAC • NATF • Multiple working groups
Market training	• Ongoing – November 2010	• Each course cycles every 8 weeks
Outreach program	• September 2009 – March 2010	• MP-selected content • Technical and Functional expertise delivered to site visits
Standby site visits	• March 2010 – November 2010	• Triggered by metric change • Pre-emptive site visit prior to formal reporting • Jointly-developed mitigation plan to improve readiness metric
Market Trials	• Open environment in October 2009 • Qualification in early 2010 • Formal trials begin February 2010	• Publish handbooks to detail requirements • Scheduled communication • Market trials execution • 168-hour test

Timeline of Readiness Events



Market Participant Readiness –Outreach Program



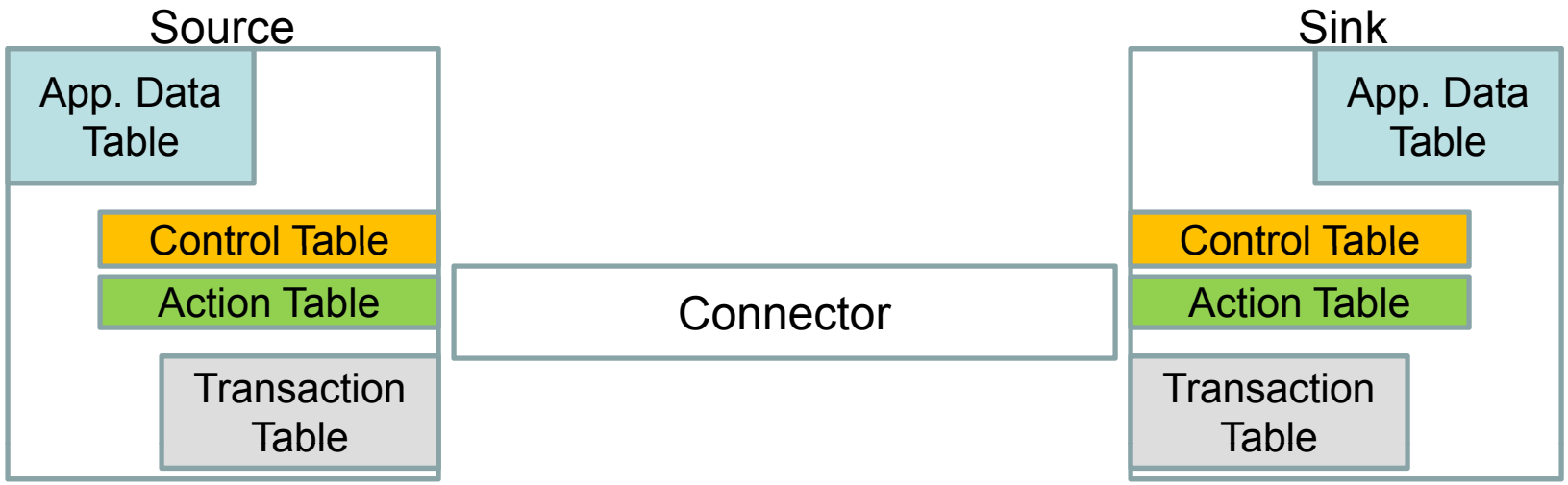
Integration Testing

David Luedtke
Murray Nixon

Special Nodal Program Committee

17 August 2009

Integration Testing Overview



Level 1: Connector Team ensures the connector between source and sink system passes a smoke test; results are verified to be correct.

Level 2: Owner Team (generally the Sink Team) demonstrates ability to transfer data correctly across the connector. Data used must be one of: native CCDS, system-generated data based on CCDS, or data from the Data Management team based on a special request. No hand-crafted data is to be used.

Level 3: Owner team (generally the Sink Team) ensures data generated by source system (may be based on the CCDS (or other generated data)) is transferred correctly across the connector to the sink system and demonstrates valid system functionality through running the sink application.

Integration Testing Update

Connector Scorecard (78 Total)					
	Definition	**Completed**	**In Progress**	**Deferred**	**Not Started**
Level 1	Connector installed; one record transferred through connector ("smoke test")	**63 (81% complete)**	**4**	**0**	**11**
Level 2	Connector tested using a common data set with multiple records	**28 (36% complete)**	**26**	**5**	**19**
Level 3	System-to-system functional test; connector tested with system-generated data	**12 (15% complete)**	**17**	**1**	**48**

Target Completion

- Levels 1 & 2 → September 22, 2009
- Level 3 → November 13, 2009

String Test Summary Table

String Name	High-Level System Flow	Objectives	Status
CRR Auction *(Iteration A)*	CRR -> S&B -> CRR -> S&B & MMS	• Conduct CRR Auction • Produce CRR Auction invoices • Reflect CRR Ownership/Disseminate CRR Ownership	Complete
CRR Auction *(Iteration B)*	CRR -> S&B -> CRR -> S&B & MMS	• Conduct CRR Auction • Produce CRR Auction Invoices • Post Invoices to MIS • Create CRR Ownership in CRR system	Complete
CRR Auction *(Iteration C)*	CRR -> S&B -> CRR -> S&B & MMS	• Conduct CRR Auction • Produce CRR Auction Invoices • Post Invoices to MIS • Create CRR Ownership in CRR system	In Planning
CRR Auction - Annual *(Iteration D)*	TBD	• TBD	In Planning
Outage Scheduler	EWS -> OS -> EMS -> OS -> MMS	• Web Services Submission to Outage Scheduler • Outage Evaluation study • Forced Outage Detection • Study results consumed into OS • Usage of Outage data for Day Ahead by MMS (without running DAM)	Complete
Web Services Oct Market Connectivity R2.1	EWS -> MMS	• Submission of specified transactions through EWS and the Market Manager Interfaces • Asynchronous validation notifications • Will NOT initially run SCED or DAM • Will NOT initially produce reports	Started

String Test Summary Table

String Name	High-Level System Flow	Objectives	Status
DAM *(Iteration A)*	CRR -> MMS & S&B S&B -> MMS -> S&B	• Complete base string process execution based on common data set across CRR/MMS/S&B using DSV July 15th data • Data (Verifiable Cost, RMR contract, and Load Ratio Share) transfer from S&B to MMS • Data (CRR ownership, MCFRI allocation) transfer from CRR to MMS • MMS perform AS obligation calculation and publication • MMS perform SFT and MCFRI DA allocation • MMS perform CRR offer derating • MMS perform DAM • DAM solution transfer from MMS to S&B	Started
DAM *(Iteration B)*	TBD	• TBD	Not Started
DAM *(Iteration C)*	TBD	• TBD	Not Started
RUC	TBD	• TBD	Not Started
SCED/RTM	TBD	• TBD	Not Started
SASM	TBD	• TBD	Not Started

	Integration Testing		End-to-End Testing			
Phase	I/A Testing Phase		E2E Phase 1	E2E Phase 2		E2E Phase 3
Dates	Apr 2009 to Aug 2009		Jul 2009 to Oct 2009	Sep 2009 to Dec 2009		Jan 2010 to Mar 2010
Quality	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Objective	Installation with Smoke Test	Connector execution with Common Data	System-to-System with Common Data	Technical Stability with Normal Load	Full set of Business Outcomes	Defined Scenarios
Indicator	Connectors			Systems and Components	Business Outcomes	Scenarios
Data	Common Data Set			Representative Data		Manipulated Data
Execution	Connector Test Scripts		Business Strings	Operating Procedures		Alternative Operating Procedures

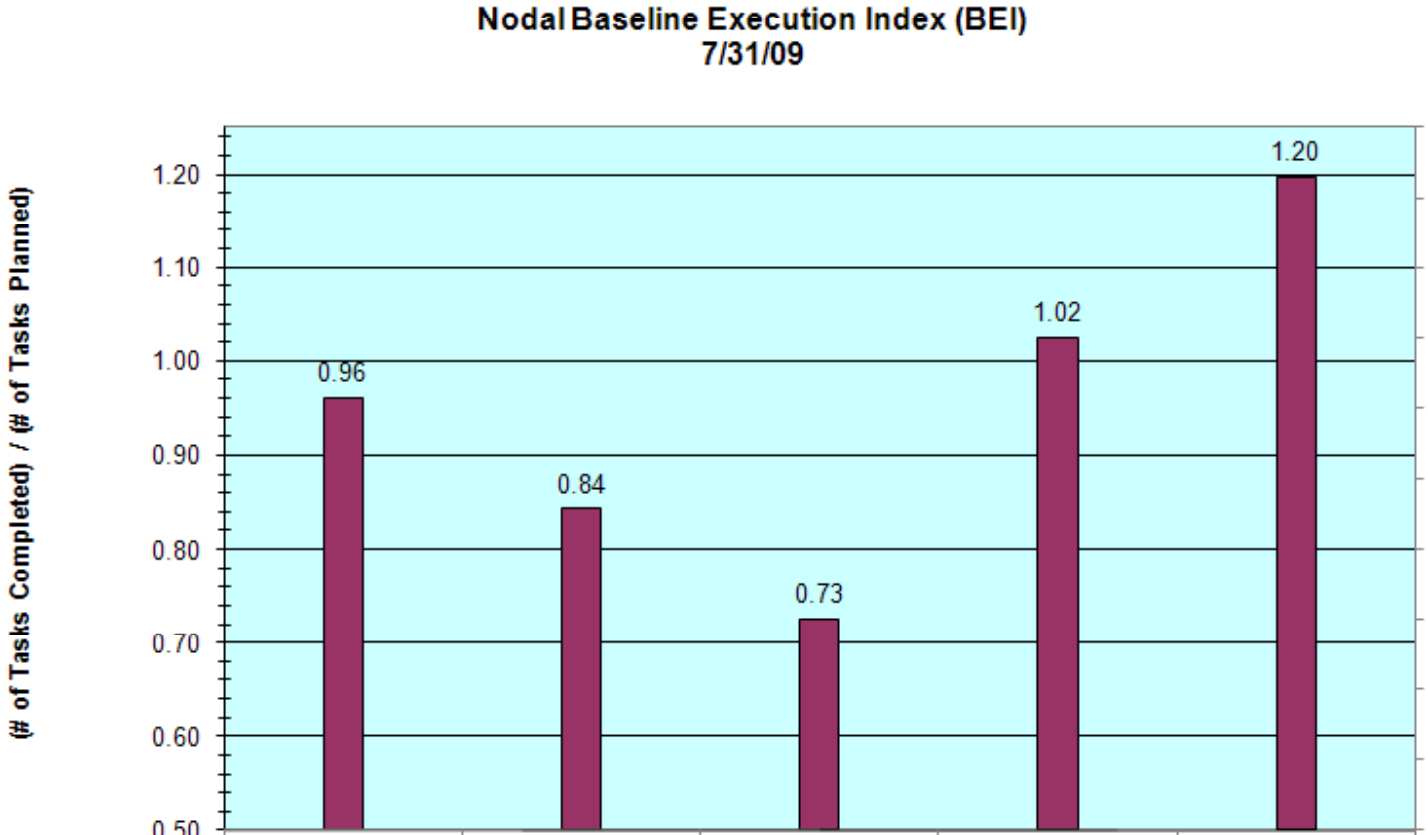
Planning

Jason Iacobucci

Special Nodal Program Committee

17 August 2009

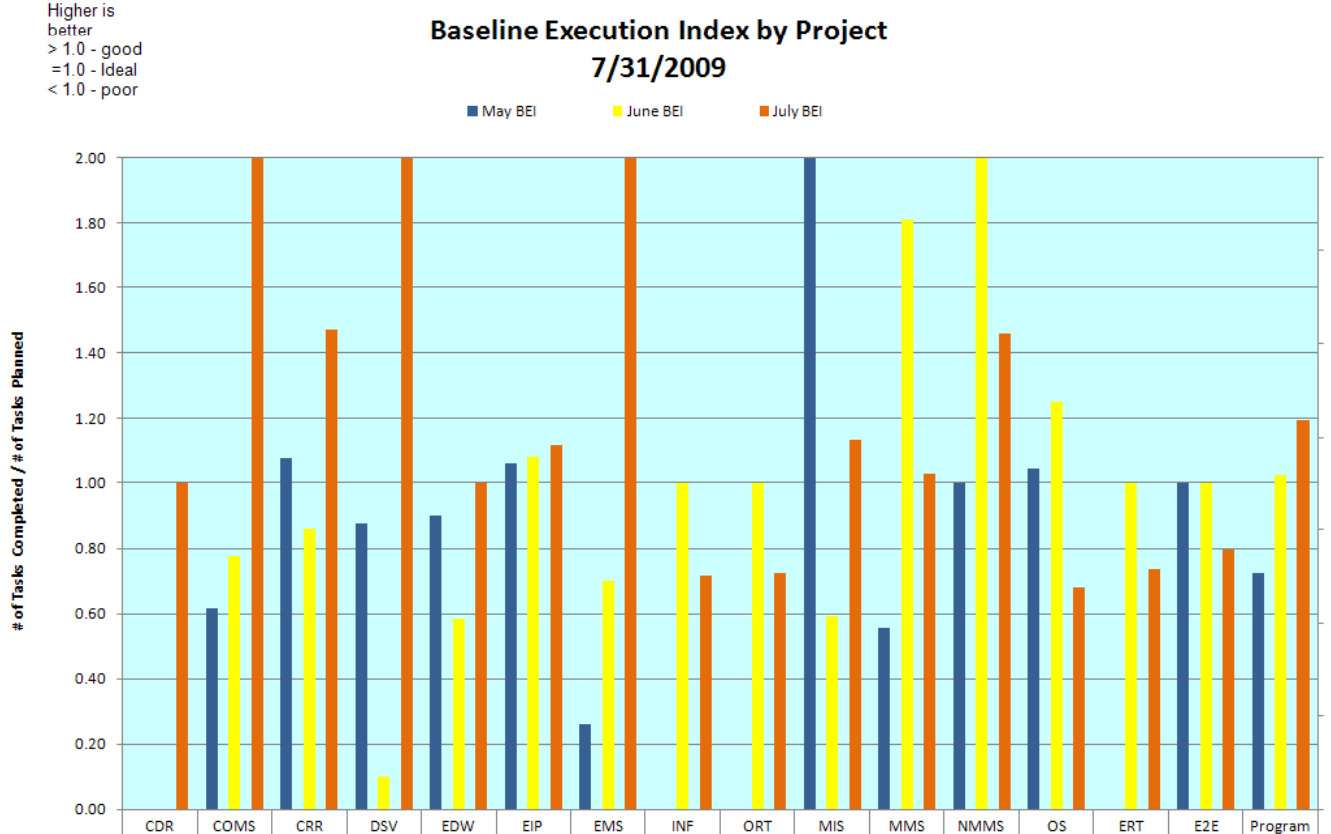
Nodal BEI Metrics



	Mar-09	Apr-09	May-09	Jun-09	Jul-09
BEI	0.96	0.84	0.73	1.02	1.20
# of tasks planned to comp	305	663	616	577	476
# of tasks completed	293	559	447	591	570
# of tasks not complete	12	104	169	-14	-94

BEI by Project Metrics

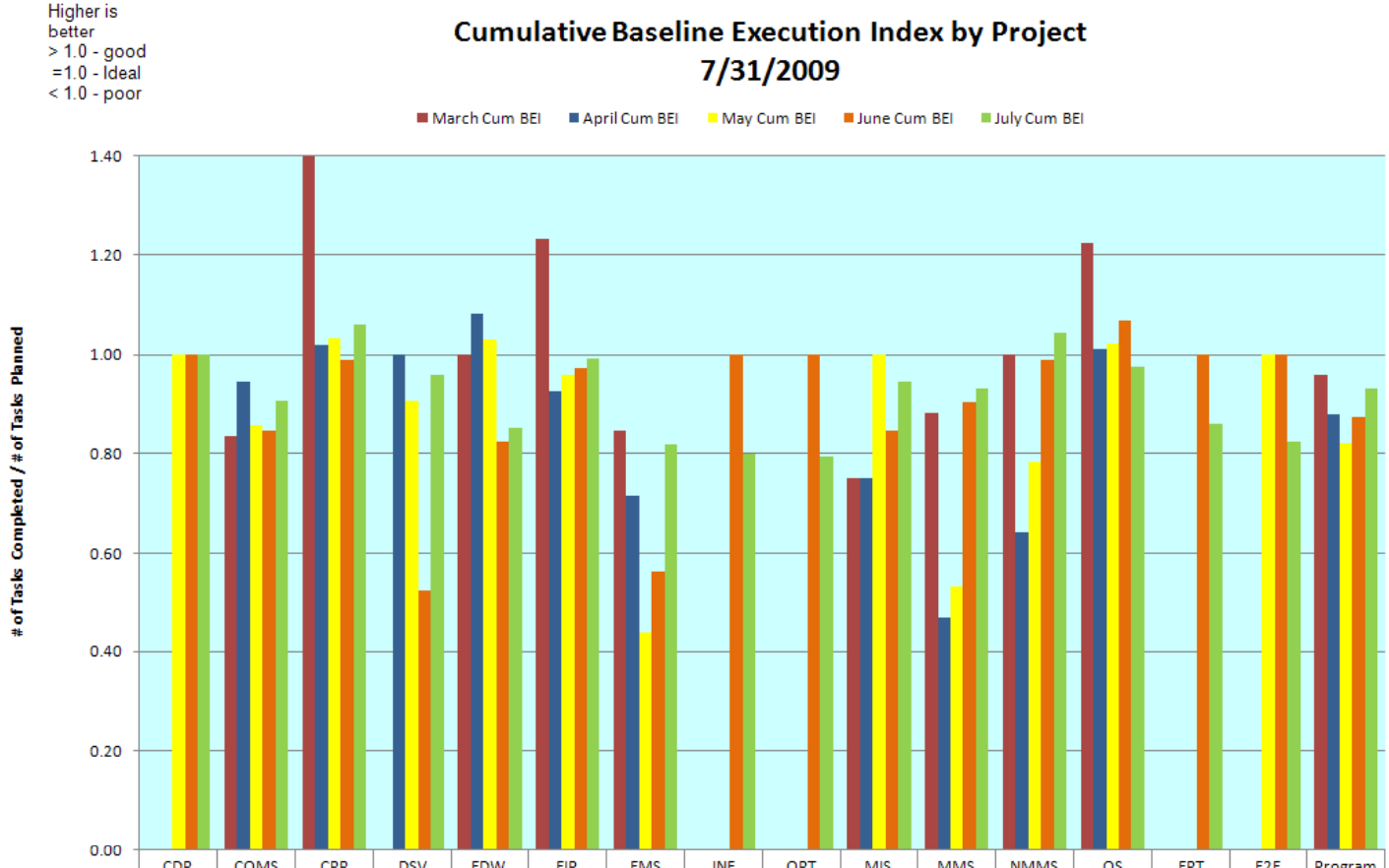
Higher is better
> 1.0 - good
=1.0 - Ideal
< 1.0 - poor



	CDR	COMS	CRR	DSV	EDW	EIP	EMS	INF	ORT	MIS	MMS	NMMS	OS	ERT	E2E	Program
May BEI	0.00	0.62	1.08	0.88	0.90	1.06	0.26	0.00	0.00	3.00	0.56	1.00	1.04	0.00	1.00	0.73
June BEI	0.00	0.78	0.86	0.10	0.58	1.08	0.70	1.00	1.00	0.59	1.81	2.43	1.25	1.00	1.00	1.02
July BEI	1.00	4.57	1.47	4.00	1.00	1.12	2.42	0.71	0.72	1.14	1.03	1.46	0.68	0.74	0.80	1.20
# May Tasks Planned	0	102	39	8	30	51	85	0	0	5	187	63	45	0	1	616
# May Tasks Comp	2	63	42	7	27	54	22	0	0	15	104	63	47	0	1	447
# June Tasks Planned	0	54	50	10	89	25	126	3	10	27	105	23	32	17	6	577
# June Tasks Comp	0	42	43	1	52	27	88	3	10	16	190	56	40	17	6	591
# July Tasks Planned	3	7	34	3	41	33	43	7	29	37	102	24	50	19	44	476
# July Tasks Comp	3	32	50	12	41	37	104	5	21	42	105	35	34	14	35	570

Monthly Cumulative BEI by Project for March – July 2009

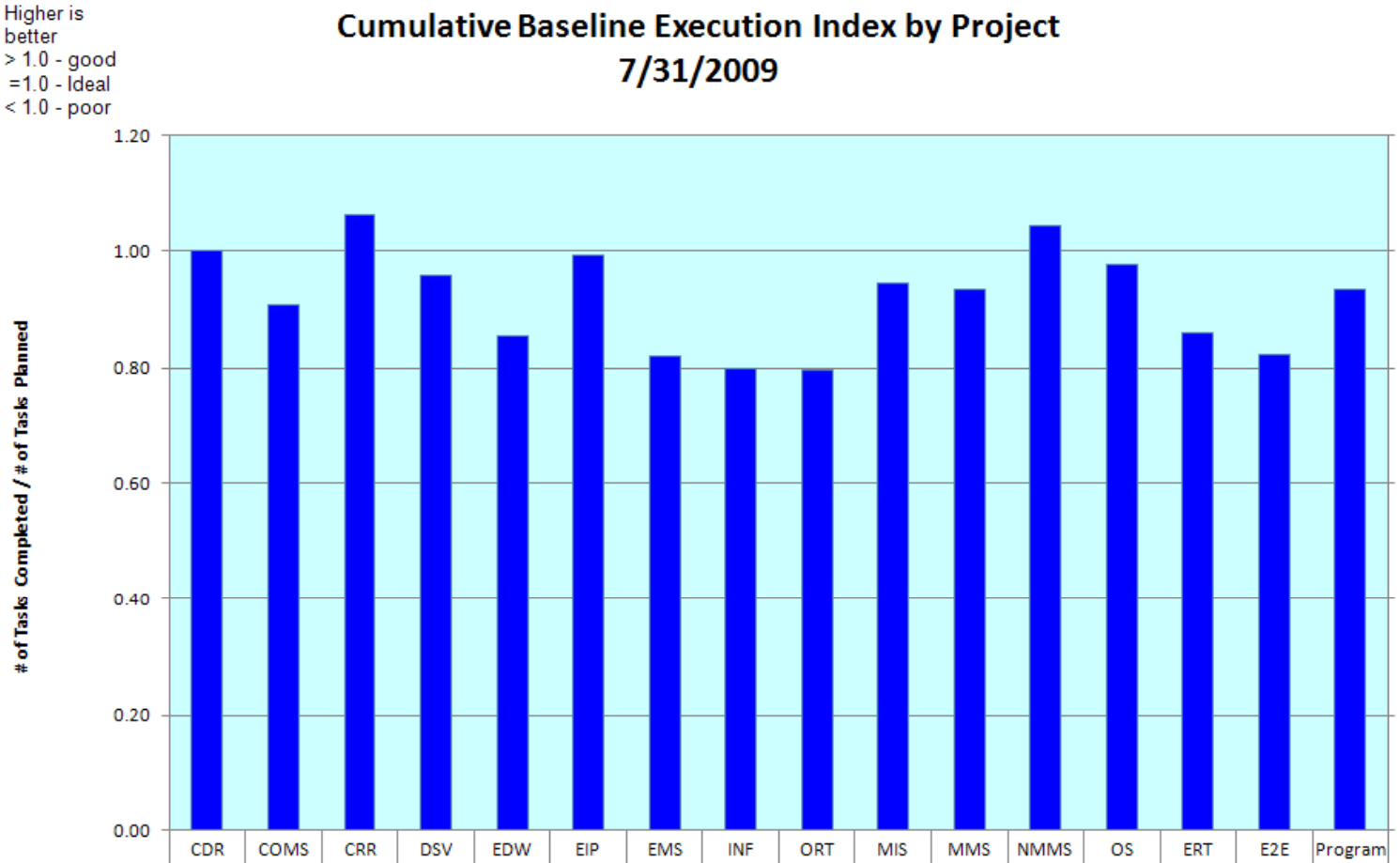
Higher is better
> 1.0 - good
=1.0 - Ideal
< 1.0 - poor



	CDR	COMS	CRR	DSV	EDW	EIP	EMS	INF	ORT	MIS	MMS	NMMS	OS	ERT	E2E	Program
March Cum BEI	0.00	0.84	2.00	0.00	1.00	1.23	0.85	0.00	0.00	0.75	0.88	1.00	1.22	0.00	0.00	0.96
April Cum BEI	0.00	0.95	1.02	1.00	1.08	0.93	0.71	0.00	0.00	0.75	0.47	0.64	1.01	0.00	0.00	0.88
May Cum BEI	1.00	0.86	1.03	0.91	1.03	0.96	0.44	0.00	0.00	1.00	0.53	0.78	1.02	0.00	1.00	0.82
June Cum BEI	1.00	0.85	0.99	0.52	0.82	0.97	0.56	1.00	1.00	0.85	0.91	0.99	1.07	1.00	1.00	0.87
July Cum BEI	1.00	0.91	1.06	0.96	0.85	0.99	0.82	0.80	0.79	0.94	0.93	1.04	0.98	0.86	0.82	0.93
# Tasks Planned	5	444	232	24	233	260	310	10	39	109	462	208	214	36	51	2,637
# Tasks Completed	5	403	246	23	199	258	254	8	31	103	431	217	209	31	42	2,460

Cumulative Nodal & Project BEI Metrics

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



	CDR	COMS	CRR	DSV	EDW	EIP	EMS	INF	ORT	MIS	MMS	NMMS	OS	ERT	E2E	Program
Cumulative BEI: March-July	1.00	0.91	1.06	0.96	0.85	0.99	0.82	0.80	0.79	0.94	0.93	1.04	0.98	0.86	0.82	0.93
# of Tasks Planned	5	444	232	24	233	260	310	10	39	109	462	208	214	36	51	2637
# of Tasks Comp	5	403	246	23	199	258	254	8	31	103	431	217	209	31	42	2460

Traceability

Betty Day

Special Nodal Program Committee

17 August 2009

Risks & Issues to Achieving Nodal's Major Milestones

- **Complete Integrated Systems (2-12-10)**
  - Issue: Resource constraints for Nodal 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)	9	9 complete	
Utilicast Report 10 (Cleary)	12	7 in progress; 5 complete	~~9/17/09~~ 12/15/09*
Utilicast Report 10 (Capezzuti)	1	1 in progress	9/17/09

* Note - Request made to Bob Kahn by Joyce Statz on 7/22/09 to extend for audit point to 12/15/09 to align with Protocol Traceability Effort timelines

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.	B. Day/ K. Farley	See breakout slide	8/7/09 – Work is underway to trace protocols, requirements, and business processes alignment analyses are in progress
2. Add team members to the nodal program with Texas market experience to ensure readiness for Market Trials. SMEs to discussion alignment issues with ERCOT business owners. SMEs to report the results of the assessment to the ERCOT business owners for resolution.	B. Day/ K. Farley	See break out slide	08/07/09 – SMEs were added to the team in May. Work is underway to trace protocols, requirements, and business processes alignment analyses are in progress
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.

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

Protocol Traceability Effort Update

Tier 1 Sections				
	Definition	**SME Analysis/Validation**	**Begin Reviews w/Business**	**Target for reports to NATF**
Section 7	Congestion Revenue Rights	**80%**	**In progress**	**Sept**
Section 8	Performance Monitoring	**5%**	**9/03**	**Nov***
Section 3	Management Activities for the ERCOT system	**15%**	**9/15**	**Nov**
Section 4	Day Ahead Operations	**5%**	**9/22**	**Oct**
Section 5	Transmission Security Analysis and RUC	**5%**	**9/29**	**Nov**
Section 9	Settlement & Billing	**5%**	**10/01**	**Nov**
Section 17	Market Monitoring & Data Collection	**0%**	**10/20**	**Dec**
Section 6	Adjustment Period and Real-Time Operations	**15%**	**10/20**	**Dec**
Section 16.11	Financial Security for Counter-Parties	**0%**	**10/27**	**Dec**

*Delays in approving Performance criteria may effect date

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.	B. Day	K. Farley	12/15/09*

* Note - Request made to Bob Kahn by Joyce Statz on 7/22/09 to extend for audit point to 12/15/09 to align with Protocol Traceability Effort timelines

Questions ?

Appendix

Market Systems Update

Project	Sub-Project	Status	Open Critical Defects July 17/July 30			
MMS		• On schedule • MMS 5 final release; currently in FAT and scheduled to exit Aug. 21 • MMS 5 Patch A (interface defects) installation scheduled July 31 • 14 interfaces to test by Sept. 1; testing now underway • Market Manager UI to exit FAT July 31; weekly defect cycles planned to address remaining defects in iTest	**MMS5**			
			Sev 1s Sev 2s Sev 3s	1 3 81	1 3 76	▼
CRR		• On schedule • CRR 1.9 final release; exited FAT July 28 (1 month early) • All 9 interfaces in iTest; 4 in execution phase, 5 completed	**CRR 1.9**			
			Sev 1s Sev 2s Sev 3s	0 0 0	0 0 0	
COMS	**CMM**	• Behind schedule • CMM 4.1 in FAT at 90% completion; targeted to exit July 31 • Two CMM 4.1 components exited FAT July 24 (2 weeks early); three more to exit FAT July 31, two more Aug. 14 • Remaining components combined with CMM Phase II to exit FAT February 2010 (internal functions only) • 4 of 5 interfaces currently in iTest • Outstanding release: CMM Phase II (4.2)	**CMM 4.1**			
			Sev 1s Sev 2s Sev 3s	1 80 49	1 42 50	 ▼ ▲
	S&B	• FAT testing complete; all interfaces currently in iTest • Targeting refactoring completion by September 2009	Sev 1s Sev 2s Sev 3s	0 0 2	0 0 2	
	CSI	• FAT testing complete • Targeting refactoring completion by August 2009	Sev 1s Sev 2s Sev 3s	0 0 16	0 0 1	 ▼
	REG	• Interface/Adapter Level 1 and Level 2 completed • Team is currently working on I/A Level 3 testing	Sev 1s Sev 2s Sev 3s	0 0 0	0 0 0	

Reliability Systems Update

Project	Status	Open Critical Defects July 17/July 30			
NMMS	• On schedule • NMMS 7 final release; exited FAT June 30, installed in iTest on July 14 • All 3 interfaces have exited FAT and are currently in iTest (2 complete)	**NMMS 7**			
		Sev 1s	0	1	▲
		Sev 2s	0	0	
		Sev 3s	49	50	▲
EMS	• On schedule • EMS 6 Patch 3 deployed to iTest July 1 • All 13 interfaces' test plans now complete; Level 1 & 2 testing has been completed on more than half • EMS 6 Patch 4 has started testing in FAT	**SPR Patch 3**			
		Sev 1s	0	0	
		Sev 2s	0	0	
		Sev 3s	105	102	▼
OS	• 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	4	8	▲
		Sev 3s *	74	73	▼
		* excluding ROO defects			

Market Verification Update

Project	Status	Open Critical Defects July 17/July 30			
Interface/Adapter Testing	• Completed MMS 5 smoke test in Nodal-iTest; started integration effort • Completed EMS load of Common Data Set and started integration with downstream systems • Created a new baseline for the Connector list (78 connectors being tracked)	**FAT Defects**			
		Sev 1s	2	3	▲
		Sev 2s	107	97	▼
		Sev 3s	433	421	▼
		iTest Defects			
		Sev 1s	2	1	▼
		Sev 2s	92	67	▼
		Sev 3s	89	73	▼

End-to-End Testing	• Phase 1 of End-to-End Testing underway; first phase focuses on running E2E functions "string" in the integrated environment with a common dataset:
	  • String 1: CRR completed auction
	  • String 2: Outage Scheduler
	  • String 3: Market Web Services
	  • String 4: Day-Ahead Market
	  • String 5: Reliability Unit Commitment
	  • String 6: Real-Time Market /SCED
	  • String 7: Secondary AS Market				

Market Trials	• Preparing 30-day Market Notice for SEM Go-Live • Market Trials submission testing begins October				
Market Readiness	• Targeting 35 MP outreach site visits • Identified key resources to execute program				
ERCOT Readiness	• Identified 20 departments affected by nodal process; completing detailed transition plans • 255 employees yet to complete nodal training (remainder in compliance)				
Operational Readiness	• System cutover validation and implementation under way • NMMS performance testing under way				

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	COMPLETE	Complete 6/19/09 SOW was executed this week
2. Identify ERCOT business resources to ensure the plan can be executed.	H. Parrish	COMPLETE	Complete 6/5/09 2 backfill positions filled
3. Identify vendor resources to ensure the plan can be executed.	H. Parrish	COMPLETE	Complete 6/29/09 Triple Point staff coming to ERCOT site, to fix defects found during testing
4. Receive software and perform FAT in increments, to keep overall program on schedule.	H. Parrish	8/14/09	07/20/2009-All deliverables have been received and Phase 1 FAT targeted for Mid Aug and the Phase 2 FAT by Feb 2010 6/29/09 Increments needed for end-to-end testing will be complete by end of July, with other changes delivered by Feb. 2010.

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.	B. Day K. Farley	Tier 1: 10/5/09 Tier 2: 12/15/09 Tier 3: 11/30/09	7/17/09 – Work is underway to trace protocols, requirements, and test cases; alignment and gap analyses are in progress
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.	B. Day K. Farley	Ongoing	7/17/09 – Work is in progress, with one team member consulted by those doing integration test planning 6/5/09 – Two team members are on board who have Texas market expertise, working in Betty Day's team on Protocol Traceability
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 expected Q1 2010	7/17/09 Work is in progress 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	7/31/09 TCC Expansion construction is ahead of schedule. New Data Center construction is underway.
3. Validate and monitor Nodal data capacity assumptions for Go Live	D. Forfia	Ongoing	7/17/09 Status reports are provided to the Board of Directors in executive sessions

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 will be 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)	9	9 complete	
Utilicast Report 10 (Cleary)	12	7 in progress; 5 complete	9/17/09
Utilicast Report 10 (Capezzuti)	1	1 in progress	9/17/09

Audit Points Complete – to be Verified - 1

ID	Description	Action Plan	Resp. Mgr.	Target Date
UTI08-01	The individual project budgets should be challenged in the following areas: a. Vendor contracts b. Contract staff c. Internal staff	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	J. Ply	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.
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
UTI-10 - 01B	Release Mgmt, Change Mgmt, Access Mgmt, Problem Mgmt	A plan will be developed to consolidate into one respository 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
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

Audit Points Complete to be Verified - 3

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.
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
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
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
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
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

Audit Points Complete to be Verified – 4

ID.	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.
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
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
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
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

Audit Points Complete to be Verified– 5

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.
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
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

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

Audit Points to Address from Utilicast Report 8

ID	Description	Action Plan	Resp. Mgr.	Target Date
UTI08-05	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 – 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 – 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	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. 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.	M. Nixon	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.	V. Gates	J. Adams	9/17/09

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.	B. Day	K. Farley	9/4/09
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. Monitor this during integration testing to see what contingency plans may be needed.	M. Nixon	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	9/4/09