



Nodal Program Update

Jason Iacobucci
Nodal Program Manager

Special Nodal Program Committee

17 August 2009

Today's Agenda

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

Delivery Assurance Task Force

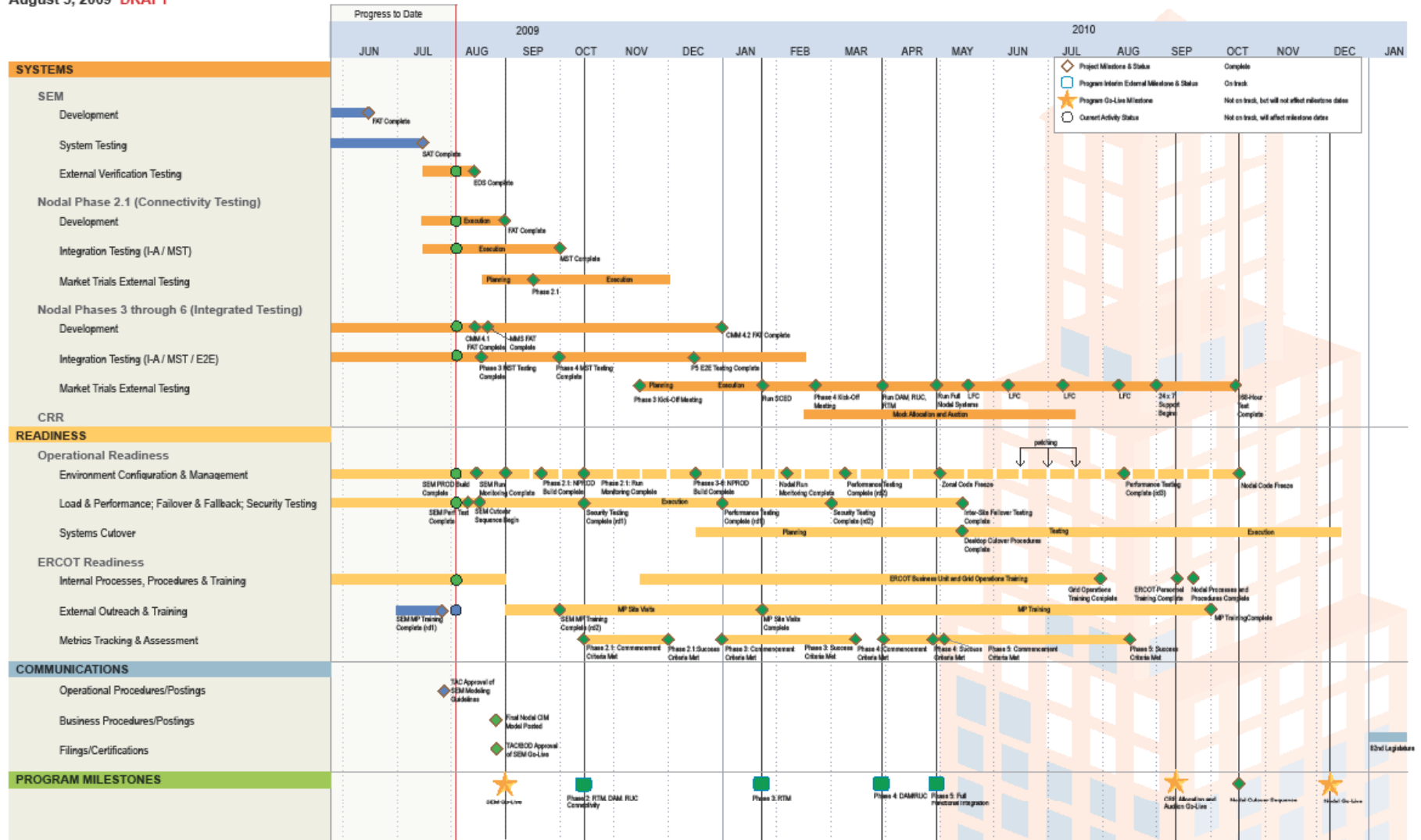
- **The Goal: Deliver the Texas Nodal Market – on time and under budget**
- **Nodal Program at progressive point other programs have been**
 - 16 months until Go-Live
 - Time to integrate applications into one business solution
 - Better decision making
- **Planning delivery of a business solution**
 - A ground-up analysis to determine remaining work using lessons learned and best practices
 - People
 - Processes
 - Technology
- **Setting Nodal Program's priorities**
 - Reconciling defects/patches/break-fix issues

Delivery Assurance Deliverables

- **Work and Resource Planning & Management**
 - Program-level “roadmap” of major milestones and activities
 - Ensure program has effort-based, resource-loaded, integrated and dependent work plans
 - SEM Go-Live (NMMS)
 - Integration/Go-Live
 - Readiness/Market Trials
 - ERCOT Readiness
- **Release Strategy & Management**
- **Program Communications**
 - Business Transition
- **Program Governance and Organization**

Nodal Roadmap

Nodal Program Timeline
August 5, 2009 DRAFT



Program Measures Going Forward

- **Baseline Execution Index measured tasks accomplished against tasks planned**
 - Number of tasks completed/Number of tasks planned to complete for the month
- **Future Measurements**
 - Earned Value effort based on remaining work
- **Status related to program's external milestones (i.e., Market Trials deliveries, phases)**
- **Status relates to overall organizational readiness (people, processes, technology)**



Integration Testing

Murray Nixon
Nodal Systems

Special Nodal Program Committee
17 August 2009

	Integration Testing (I/A)		End-to-End Testing (E2E)			
Phase	I/A		E2E Phase 1	E2E Phase 2		E2E Phase 3
Dates	Apr 2009 to Sep 2009		Jul 2009 to Nov 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 (data transferred)	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

Integration Testing Status

Connector Scorecard (78 Total)					
	Definition	Completed	In Progress	Deferred	Not Started
Level 1	Connector installed; one record transferred through connector ("smoke test")	65 (83% complete)	5	0	8
Level 2	Connector tested using a common data set with multiple records	33 (45% complete*)	26	5	14
Level 3	System-to-system functional test; connector tested with system-generated data	13 (17% complete*)	17	1	47

* Less Deferred count (items that cannot be tested in the iTest environment)

Target Completion

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

Risks & Issues

End-to-End Test Phase 1 Summary

String Name	High-Level System Flow	Objectives	Status
CRR Auction (Iteration A)	CRR -> S&B -> CRR -> S&B & MMS	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> TBD 	In Planning
Outage Scheduler	EWS -> OS -> EMS -> OS -> MMS	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

End-to-End Test Phase 1 Summary (cont.)

String Name	High-Level System Flow	Objectives	Status
DAM (Iteration A)	CRR -> MMS & S&B S&B -> MMS -> S&B	<ul style="list-style-type: none"> • Complete execution of test string issue 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 (Iteration A)	EMS → MMS	<ul style="list-style-type: none"> • Solve Real-Time market with SCADA and representative offer data. • Stabilize high availability applications (establish EMS and MMS heartbeats) before adding other components. • Outage Scheduling, Settlements and Reports will be added to future iterations. 	In Planning
SASM	TBD	• TBD	Not Started

Market Verification Update

Project	Status	Open Critical Defects July 30/Aug. 13			
Interface/Adapter Testing	<ul style="list-style-type: none"> MMS loaded common dataset and received software upgrade to enable interface with CRR, EMS, S&B and other applications. Executed first Day-Ahead Market and SCED runs in integrated environment with several integration defects. 	FAT Defects			
		Sev 1s	3	2	▼
		Sev 2s	97	33	▼
		Sev 3s	421	431	▲
		iTest Defects			
Sev 1s	1	1	▼		
Sev 2s	67	56	▼		
Sev 3s	73	64			
End-to-End Testing	<ul style="list-style-type: none"> Phase 1 of End-to-End Testing underway; first phase focuses on running E2E functions “string” in the integrated environment with a common dataset: <ul style="list-style-type: none"> CRR completed auction Outage Scheduler Market Web Services Day-Ahead Market Reliability Unit Commitment Real-Time Market /SCED Supplementary AS Market 				



Market Readiness

Vikki Gates
Readiness & Transformation

Special Nodal Program Committee

17 August 2009

◆ **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

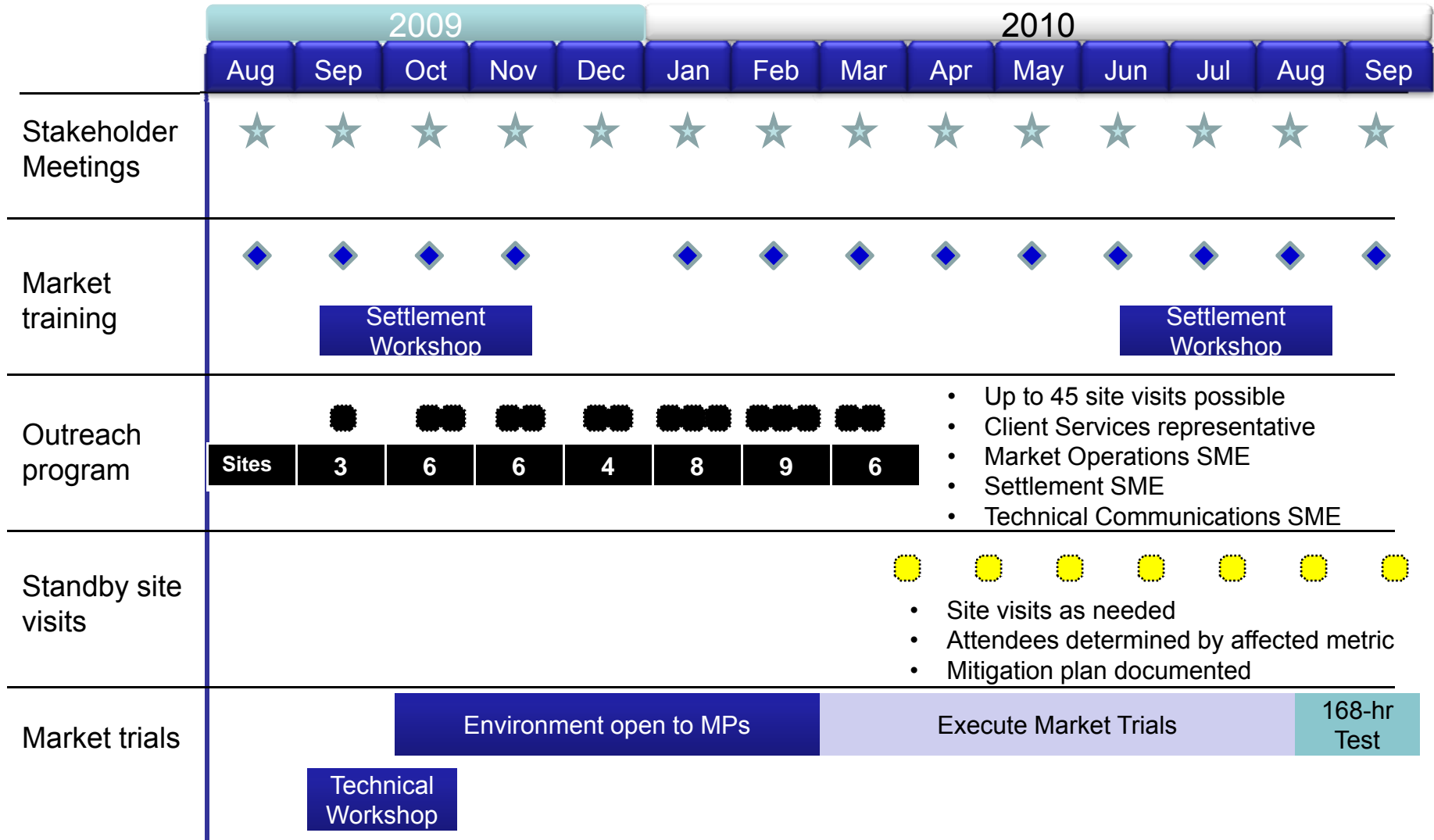
- ◆ **Readiness is an interrelated effort**
 - The “readiness” project is a small part of achieving overall market readiness

- ◆ **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

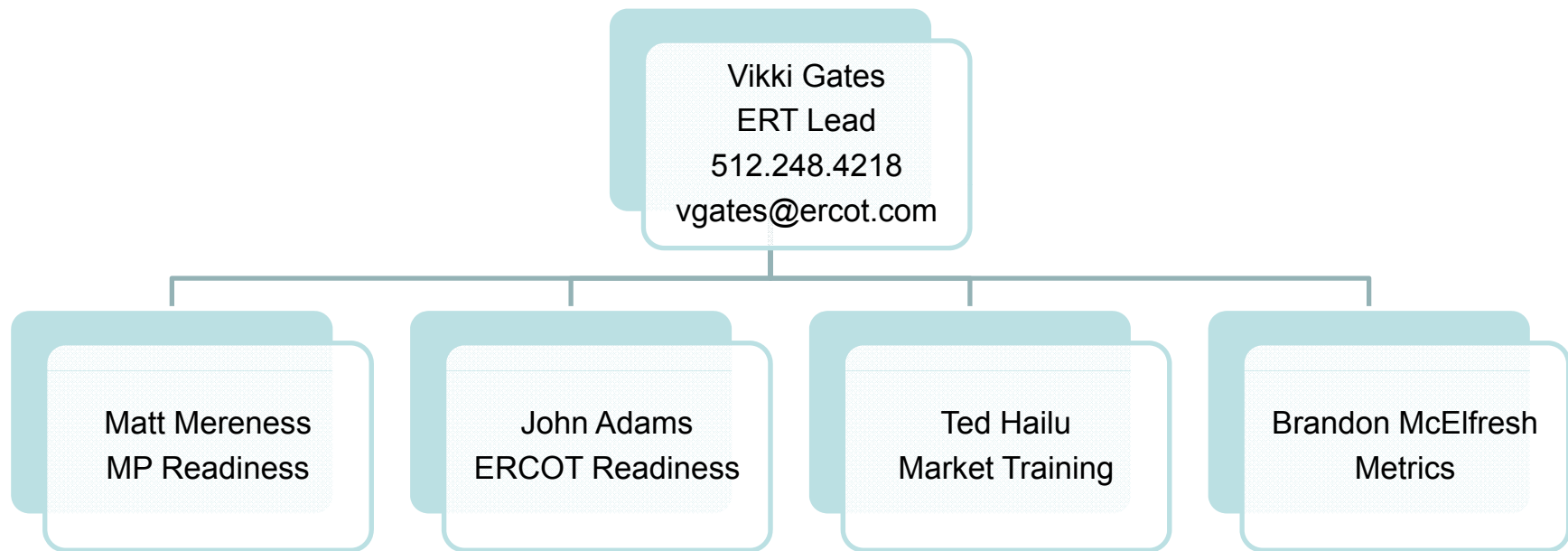
Readiness Touch Points

	Timing	Method
Stakeholder meetings	<ul style="list-style-type: none"> Scheduled meetings Topic based workshops 	<ul style="list-style-type: none"> TAC NATF Multiple working groups
Market training	<ul style="list-style-type: none"> Ongoing – November 2010 	<ul style="list-style-type: none"> Each course cycles every 8 weeks
Outreach program	<ul style="list-style-type: none"> September 2009 – March 2010 	<ul style="list-style-type: none"> MP-selected content Technical and Functional expertise delivered to site visits
Standby site visits	<ul style="list-style-type: none"> March 2010 – November 2010 	<ul style="list-style-type: none"> Triggered by metric change Pre-emptive site visit prior to formal reporting Jointly-developed mitigation plan to improve readiness metric
Market Trials	<ul style="list-style-type: none"> Open environment in October 2009 Qualification in early 2010 Formal trials begin February 2010 	<ul style="list-style-type: none"> Publish handbooks to detail requirements Scheduled communication Market trials execution 168-hour test

Timeline of Readiness Events



Market Participant Readiness: Outreach Program





Traceability

Betty Day
Program Control & Review

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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

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 affect date



Financial Review

Special Nodal Program Committee

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Questions ?

Appendix

Market Systems Update

Project	Sub-Project	Status	Open Critical Defects July 30/Aug. 13				
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 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	1	1		
			Sev 2s	3	4	▲	
			Sev 3s	76	92	▲	
CRR		<ul style="list-style-type: none"> 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	0	0		
			Sev 2s	0	0		
			Sev 3s	0	0		
COMS	CMM	<ul style="list-style-type: none"> Behind schedule CMM 4.1 in FAT at 98% completion; targeted to exit Aug. 21 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	1	0	▼	
			Sev 2s	42	8	▼	
			Sev 3s	50	36	▼	
	S&B	<ul style="list-style-type: none"> FAT testing complete; all interfaces currently in iTest Targeting refactoring completion by September 2009 	Sev 1s	0	0		
			Sev 2s	0	0		
			Sev 3s	2	3	▲	
	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	1	10	▲	
	REG	<ul style="list-style-type: none"> Interface/Adapter Level 1 and Level 2 completed Team is currently working on I/A Level 3 testing 	Sev 1s	0	0		
			Sev 2s	0	0		
			Sev 3s	0	0		

Reliability Systems Update

Project	Status	Open Critical Defects July 30/Aug. 13			
NMMS	<ul style="list-style-type: none"> 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	1	1	
		Sev 2s	0	0	
		Sev 3s	50	50	
EMS	<ul style="list-style-type: none"> On schedule EMS 6 Patch 4 currently in FAT All 13 interfaces have completed Level 1 & 2 testing 	SPR Patch 3			
		Sev 1s	0	0	
		Sev 2s	0	0	
		Sev 3s	102	100	▼
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	8	5	▼
		Sev 3s *	73	72	▼
* excluding ROO defects					

Market Verification Update

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Interface/Adapter Testing	<ul style="list-style-type: none"> MMS loaded common dataset and received software upgrade to enable interface with CRR, EMS, S&B and other applications. Executed first Day-Ahead Market and SCED runs in integrated environment with several integration defects. 	FAT Defects			
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		Sev 2s	97	33	▼
		Sev 3s	421	431	▲
		iTest Defects			
		Sev 1s	1	1	▼
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		Sev 3s	73	64	▼
End-to-End Testing	<ul style="list-style-type: none"> Phase 1 of End-to-End Testing underway; first phase focuses on running E2E functions “string” in the integrated environment with a common dataset: <ul style="list-style-type: none"> 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: Supplementary AS Market 				
Market Trials	<ul style="list-style-type: none"> SEM Go-Live remains on track for Aug. 31; TAC, Board to review Aug. 18. All 20 TSPs engaged by ERCOT (120 registered users). 				
Market Readiness	<ul style="list-style-type: none"> Targeting 35 MP outreach site visits. Identified key resources to execute program. 				
ERCOT Readiness	<ul style="list-style-type: none"> Identified 20 departments affected by nodal process; completing detailed transition plans. 255 employees yet to complete nodal training (remainder in compliance). 				
Operational Readiness	<ul style="list-style-type: none"> System cutover validation 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	12/15/09	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 12/15/09*
Utilicast Report 10 (Capezzuti)	1	1 in progress	9/17/09

* Note: Request made 7/22/09 to extend for audit point to 12/15/09 to align with Protocol Traceability Effort timelines.

Audit Points Complete – to be Verified - 1

ID	Description	Action Plan	Resp. Mgr.	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 	J. 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.
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 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
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	Responsible Director	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.	R. Morgan	J. 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. Iacobucci	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	K. Kasparian 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	<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>	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. Iacobucci	D. Luedtke	9/4/09

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 breakout 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.