



Nodal Program Update

Jason Iacobucci
Nodal Program Manager

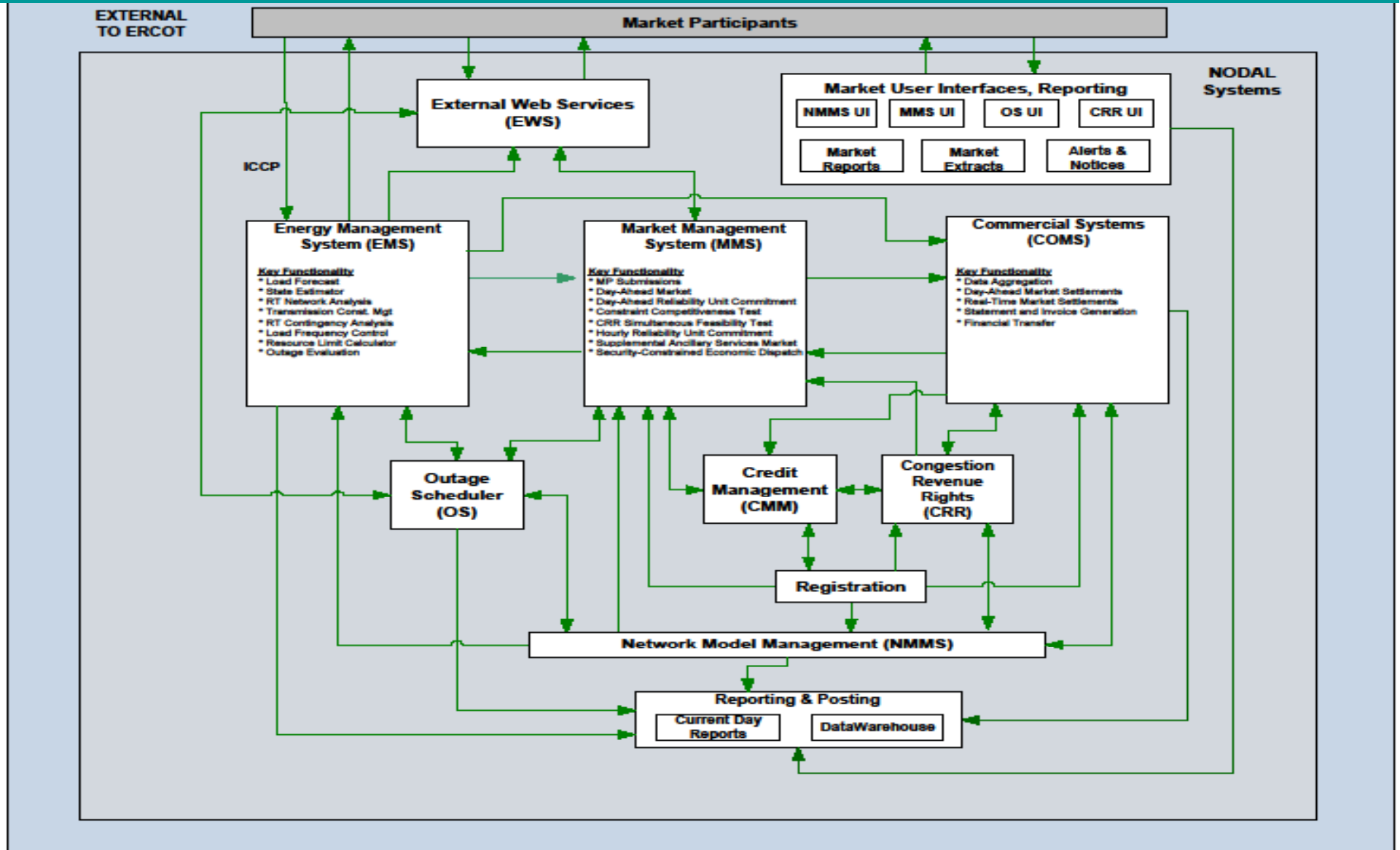
Special Nodal Program Committee

16 November 2009

Today's Agenda

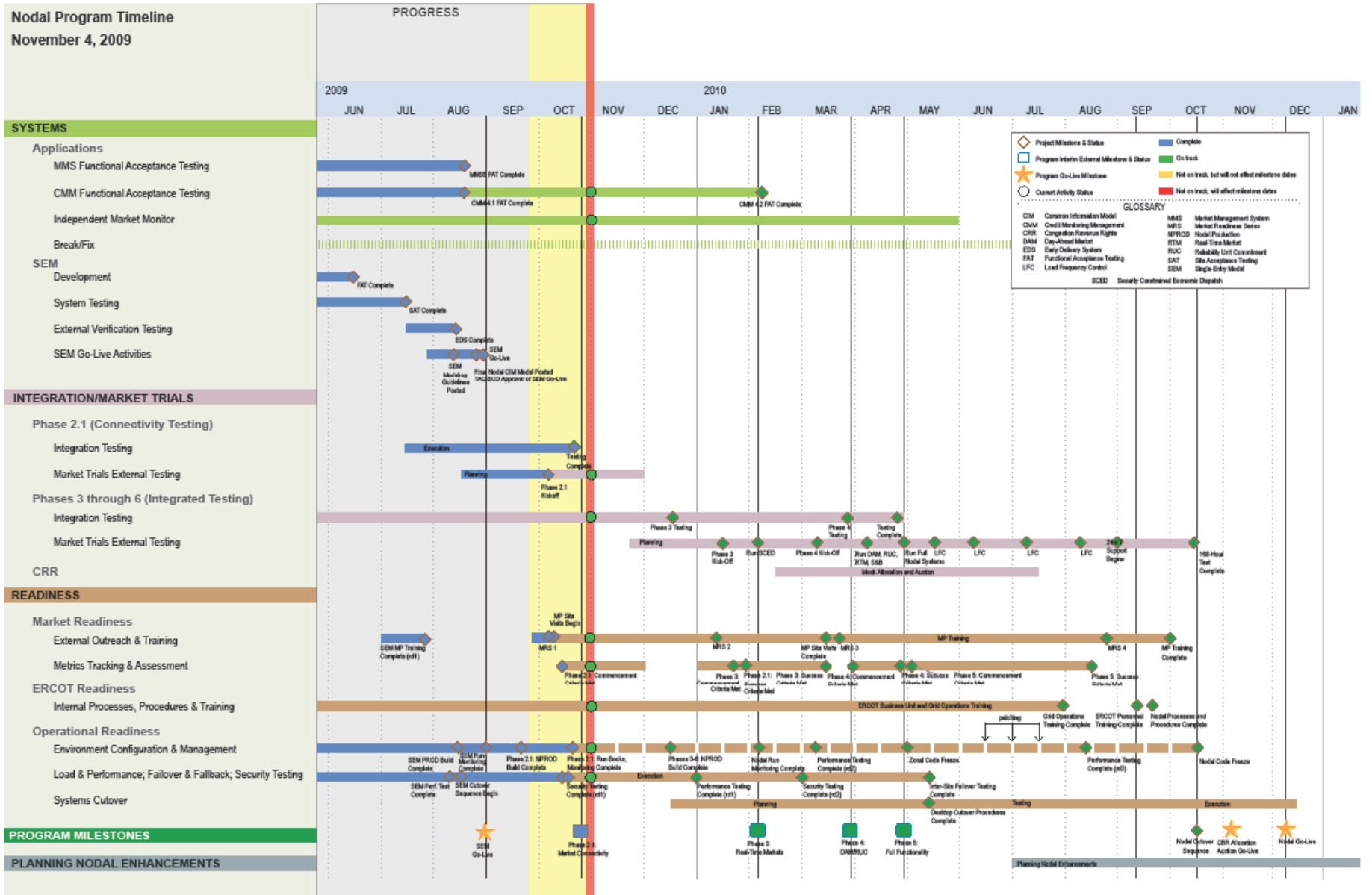
- **Program Status**
- **Traceability**
- **Market Readiness**
- **Financials**
- **Appendix**

Nodal Systems Blueprint



Nodal Timeline

Nodal Program Timeline
November 4, 2009



Completed Milestones

■ Program Milestone: Phase 2.1 Market Connectivity

◆ Included the following project milestones

- Market Trials
 - Phase 2.1 Connectivity Testing
 - » Technical Workshop Oct. 28
- Market Readiness
 - External Outreach & Training
 - » Completed first 7 of 33 MP site visits
 - Metrics Tracking & Assessment
 - » Phase 2.1 Commencement Criteria met: readiness review complete
- Operational Readiness
 - Environment Configuration & Management
 - » Phase 2.1 run books and monitoring: IT review complete
 - » Phase 2.1 NPROD build complete: final code installed and tested
 - Security Testing
 - » Security testing complete
 - » Performance testing: Web Services and UI benchmarks complete
- Integration Testing
 - Phase 2.1 testing complete: known issues list posted for Market Trials

Near-Term Milestones: Detailed Status (10-29-09)

■ Program Milestones

- Phase 3: Real-Time Markets

◆ Project Milestones Look-Ahead

Project Milestone	Status	Detail
Readiness/ Environment Configuration & Mgmt/ Phase 3-6 NPROD Build Complete	• Complete	• Infrastructure build complete.
Readiness/ Load & Performance/ Phase 3 Performance Testing	• On target	• Planning in progress
Integration/ Integrated Testing/ Phase 3 Testing	• On target	• Planning complete • Integrated testing under way (CRR, OS, SCED) • Running Real-Time operating scenarios twice weekly
Integration/ Integrated Testing/ Phase 3 Kickoff	• On target	• Meeting to be held in early January

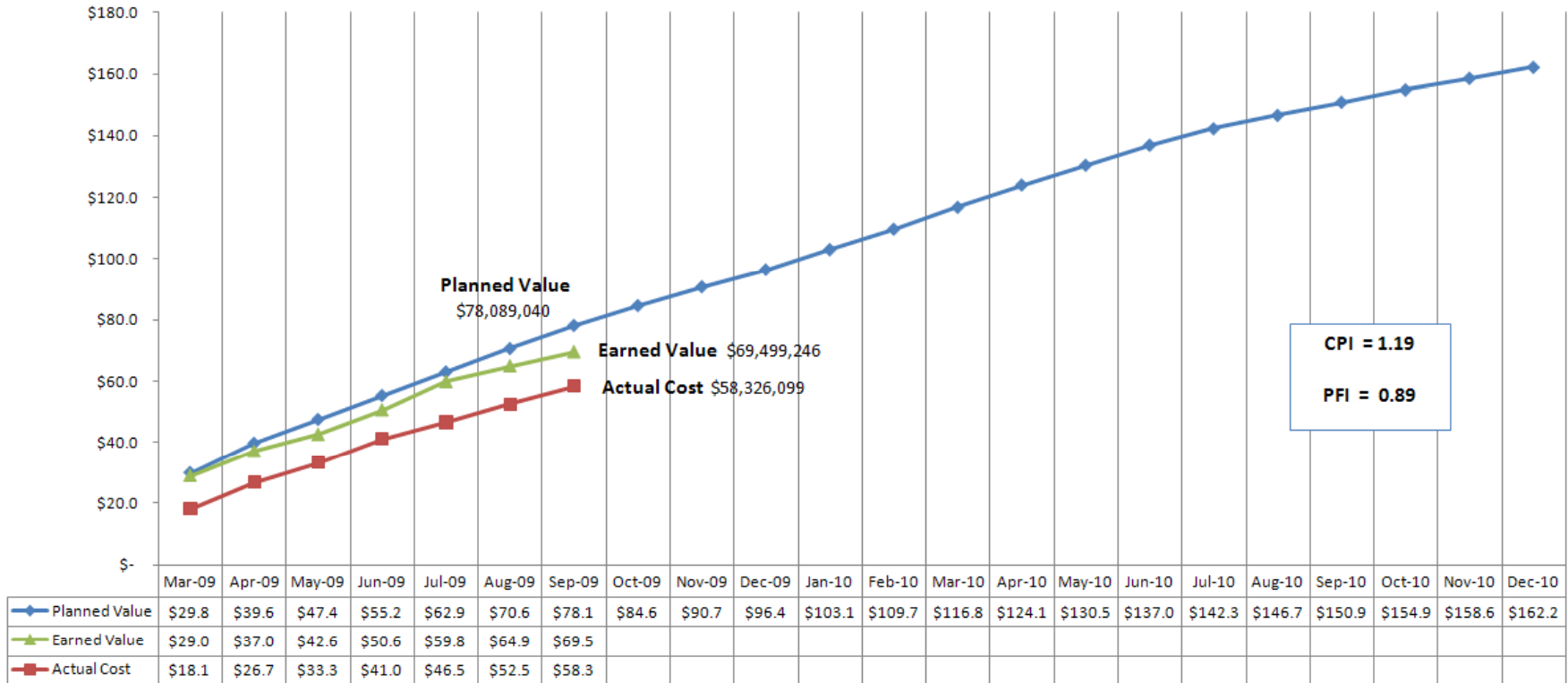
Future Program Milestones

Phase	When	Scope	Status
2.1: Market Connectivity <i>Milestone Complete</i>	Oct. 28	<ul style="list-style-type: none"> MP interface testing (API, Market Manager UI) Market System Rules Validation (Phase 1) 	<ul style="list-style-type: none"> Connectivity testing began as scheduled Up to 16 MPs testing market submissions daily Some technical issues on market side Few functional issues
3: Real-Time Markets	Mid January-Early February	<ul style="list-style-type: none"> MMS-SCED execution SCED results, report publishing CRR auction execution (CRR UI) OS submissions (API, OS UI) 	<ul style="list-style-type: none"> Planning complete Integrated testing under way (CRR, OS, SCED) Running Real-Time operating scenarios twice weekly
4: DAM/RUC	Late March-Early April	<ul style="list-style-type: none"> MMS-DAM, DRUC, HRUC, SCED execution Market results, report publishing Initial S&B execution Outage, CRR integration 	<ul style="list-style-type: none"> Planning in progress Integrated testing under way Executing DAM mechanics
5: Full Functionality	Late April-Early May	<ul style="list-style-type: none"> Run full nodal systems 	<ul style="list-style-type: none"> Planning in progress Internal DST test Nov. 1

Earned Value for the Nodal Program from March - September

Nodal Program

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



NOTE: Amounts in Millions

Nodal Program Risks & Issues

Risk/Issue	Priority	Target	Status
Integration Testing <i>Continued risk around technology delivery of business systems integration due to complexity and continuing maturing of application and data dependencies.</i>	Medium	May 2010	<ul style="list-style-type: none"> On track; test phase planning, work plan complete. Execution of work plan, with specific focus on January Market Trials functionality, under way. Daily meetings being held.
Reconciling Protocols, Systems and Market Expectations <i>Experience by other ISOs in deploying nodal markets 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.</i>	High	12/15/09	<ul style="list-style-type: none"> On track; work underway to trace protocols, requirements and business processes alignment analyses are in progress. SMEs added to the team in May.
Internet Explorer Upgrade <i>Nodal Integration testing for the Market Participant (MP) User Interfaces and MIS reporting is using Internet Explorer (IE) version 6. MPs have requested ERCOT support a newer version: IE7 (IE8 is also available). If the nodal market-facing application requires certification against other IE versions, there will be internal and external costs associated with re-testing and updating the UIs.</i>	High	12/31/09	<ul style="list-style-type: none"> On track. ERCOT Enterprise Architecture team completed initial Zonal analysis and developed options. Nodal Impact assessment to be completed in parallel with Integration Testing over the next several weeks.
Market Interaction Operating Level Agreements (OLAs) <i>Need to determine operating level agreements associated with market interactions to assist ERCOT in establishing operational thresholds. ERCOT is responsible for ensuring any market thresholds required before Go-Live are defined, managed through the appropriate stakeholder processes and communicated in a timely fashion.</i>	High	April/May 2010	<ul style="list-style-type: none"> On track. Phase 2.1 OLAs established and communicated to the market during Oct. 8 Market Readiness Seminar. Phase 3 and 4 OLA definitions in process

External Audit Status Summary

Audit	Audit Points Identified	Audit Points in Execution	Date to Complete Last Point
IBM Report 7	4	4 complete	12/31/09
Utilicast Report 8	6	1 in progress	2011
Utilicast Report 10 (Morgan)	9	9 complete	
Utilicast Report 10 (Cleary)	12	2 in progress; 10 complete	12/15/09
Utilicast Report 10 (Capezzuti)	1	Complete	9/17/09



Traceability

Betty Day
Program Control & Review

Special Nodal Program Committee

16 November 2009

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	12/22/09 (revised)	11/02/09 – SMEs are working with business owners on research and alignment items. NATF web ex for 11/30/09 and 12/18/09 to review full trace reports with Market Participants.
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	Ongoing	11/02/09 – 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	11/02/09 – status reports provided to program, NATF, TAC, Special Nodal Committee monthly.

Protocol Traceability Effort Update

Tier 1 Sections					
	PTE Traced Items	Research Items	In Progress: Business Procedures	In Progress: Reports/ Extracts	PTE Alignment Items
Section 3 – Management Activities for the ERCOT system (Nov NATF)	904	271	449	116	TBD
Section 4 – Day Ahead Operations (Nov NATF)	640	124	61	65	TBD
Section 5 – Transmission Security Analysis and RUC (Nov NATF)	167	28	58	8	TBD
Section 6 – Adjustment Period and Real-Time Operations (Dec NATF)	921	168	434	52	TBD
Section 7 – Congestion Revenue Rights (Oct NATF)	481	68	85	29	1
Section 8 – Performance Monitoring (Dec NATF)	224	86	149	2	TBD
Section 9 – Settlement & Billing (Nov NATF)	410	0	0	0	TBD
Section 16.11 – Financial Security for Counter Parties (Dec NATF)	200	109	9	1	TBD
Section 17 – Market Monitoring & Data Collection (Dec NATF)	25	3	21	1	TBD
Total	3972	800	1266	274	TBD

Protocol Traceability Effort Update

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Section 7 – Congestion Revenue Rights (Oct NATF)	481	68	85	29	1
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Section 4 – Day Ahead Operations (Nov NATF)	640		61	65	TBD
Section 5 – Transmission Security Analysis and RUC (Nov NATF)				8	TBD
Section 6 – Adjustment Period and Real-Time Operations (Dec NATF)				52	TBD
Section 8 – Performance Monitoring (Dec NATF)	2		149	2	TBD
Section 9 – Settlement & Billing (Nov NATF)	4		0	0	TBD
Section 16.11 – Financial Security for Counter Parties (Dec NATF)	2		9	1	TBD
Section 17 – Market Monitoring & Data Collection (Dec NATF)	25	3	21	1	TBD
Total	3972	800	1266	274	TBD

PTE working with business owners to find answers in functional requirements

Protocol Traceability Effort Update

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Section 4 – Day Ahead Operations (Nov NATF)	640	124		65	TBD
Section 5 – Transmission Security Analysis and RUC (Nov NATF)	167				TBD
Section 6 – Adjustment Period and Real-Time Operations (Dec NATF)	921	100		32	TBD
Section 8 – Performance Monitoring (Dec NATF)	224	86		2	TBD
Section 9 – Settlement & Billing (Nov NATF)	410	0		0	TBD
Section 16.11 – Financial Security for Counter Parties (Dec NATF)	200	109		1	TBD
Section 17 – Market Monitoring & Data Collection (Dec NATF)	25	3	21	1	TBD
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Business procedures being worked in preparation for Market Trials (ERT)

Protocol Traceability Effort Update

Tier 1 Sections					
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Section 7 – Congestion Revenue Rights (Oct NATF)	481	68	85	29	1
Section 3 – Management Activities for the ERCOT system (Nov NATF)	904	271	449		TBD
Section 4 – Day Ahead Operations (Nov NATF)	640	124	61		TBD
Section 5 – Transmission Security Analysis and RUC (Nov NATF)	167	28	5		TBD
Section 6 – Adjustment Period and Real-Time Operations (Dec NATF)	921	168	434		TBD
Section 8 – Performance Monitoring (Dec NATF)	224	86	149		TBD
Section 9 – Settlement & Billing (Nov NATF)	410	0	0		TBD
Section 16.11 – Financial Security for Counter Parties (Dec NATF)	200	109	9		TBD
Section 17 – Market Monitoring & Data Collection (Dec NATF)	25	3	21	1	TBD
Total	3972	800	1266	274	TBD

A subset of reports and extracts will be available during Market Trials

Protocol Traceability Effort Update

Tier 1 Sections					
	PTE Traced Items	Research Items	In Progress: Business Procedures	In Progress: Reports / Extracts	PTE Alignment Items
Section 7 – Congestion Revenue Rights (Oct NATF)	481	68	85	29	1
Section 3 – Management Activities for the ERCOT system (Nov NATF)	904	271	449	116	7
Section 4 – Day Ahead Operations (Nov NATF)	640	124	61	65	1
Section 5 – Transmission Security Analysis and RUC (Nov NATF)	167	28	58	8	0
Section 6 – Adjustment Period and Real-Time Operations (Dec NATF)	921	168	434	32	0
Section 8 – Performance Monitoring (Dec NATF)	224	86	149	2	0
Section 9 – Settlement & Billing (Nov NATF)	410	0	0	0	0
Section 16.11 – Financial Security for Counter Parties (Dec NATF)	200	109	9	1	0
Section 17 – Market Monitoring & Data Collection (Dec NATF)	25	3	21	1	TBD
Total	3972	800	1266	274	TBD

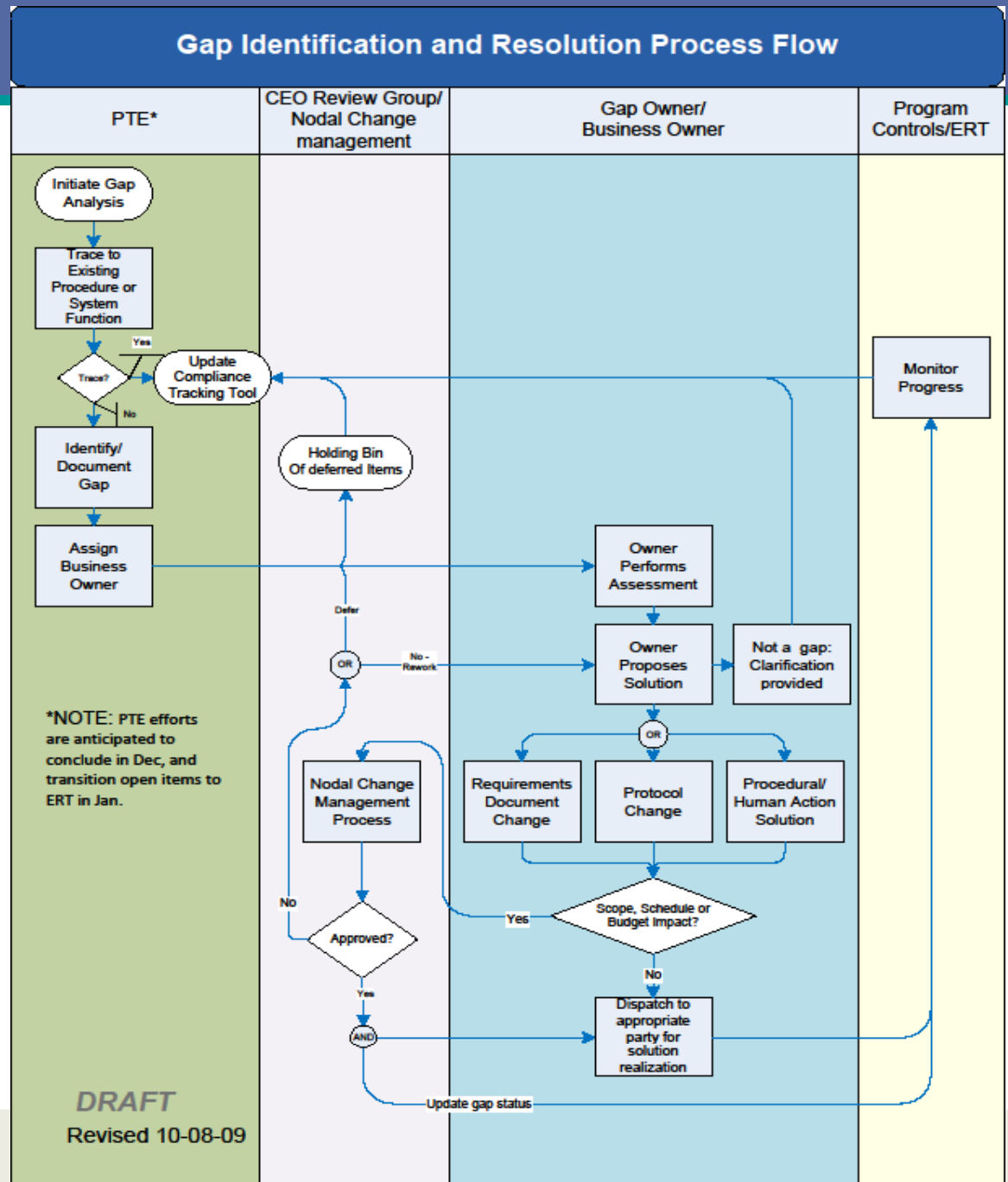
Business Owner proposes solution (Procedure, Protocol, or Requirements Change) which is checked against project scope, schedule, budget.

If there's an impact, it will go through nodal change control process.

- **What It Will Show:**
 - Protocol item and how it is covered by
 - Functional Requirement
 - Business Procedure Title
 - EMIL Item
 - Other document (Operating Guide or handbook)
- **What It Will Not show:**
 - Detail design information
 - Test case/script information
 - How are these covered?
 - Will share overview/summary at December TAC meeting

Full Trace Report

- What if there is an alignment item?
- What is the process?



- **What is the expectation of the web ex meetings?**
 - Review of progress of all tier 1 sections (slide 15)
 - Review of how to read the report
 - Review of in-progress categories
 - Review of alignment items and next steps
 - Questions from MPs on specific items within a section
- **Questions about a research item or alignment item should be forwarded via e-mail to NodalMarketTransition@ercot.com. Subject line “Protocol Traceability Question”**

Reading a Trace Report

The screenshot shows a Microsoft Word document titled "Section 7 Trace Report for MPs.doc [Compatibility Mode] - Microsoft Word". The document content is as follows:

Introduction: The Trace Report

The Protocol Trace Report is intended to be used by Market Participants to review the functional requirements (system operations), business procedures, or report identification on the ERCOT Master Information List (EMIL) that implement the Nodal Protocols. This report displays each *traceable* Protocol statement followed by the item(s) which carry out the directive.

<Protocol Section Number>: <Protocol text>

Traces To:

- **<SYSTEM>** <Requirement #> <Requirement Text>
- **Business Procedure:** <Business Procedure Title>
- **EMIL Requirement:** <EMIL Index Number> <Report/Notice/... Title>
- **Document:** <Other Binding Document Title>

Annotations on the right side of the document:

- A black bracket groups the "Protocol Statement" and "Traces To:" sections, labeled "Protocol Statement (traceable)".
- A blue bracket groups the "Traces To:" list items, labeled "Traces to: < Business Requirements", "< Business Procedures", "< EMIL Requirements", and "< Other Binding Documents".

Page: 2 of 112 | Words: 41,325 | 125%

Reading a Trace Report

The following is an example from Section 7.5.5.2:

7.5.5.2: ERCOT shall post monthly, by the fifth Business Day of the month, on the MIS Public Area CRR ownership of record for each source and sink pair and each flowgate:

Traces To:

- **CRR FR12.27** By the 5th business day of each month, the CRR System shall post on the MIS Public Area: CRR ownership of record for each source and sink pair and each flowgate.
- **MIS FR122** Description: Post CRR Ownership of record
Posting Category: Public
Posting Frequency: Monthly
- **Business Procedure:** *CRR Desk Procedures: Monitor Scheduled Activities and Messages*
- **EMIL Requirement:** *NP7-157-SG CRR Ownership of Record*

5.6.1.2(1) The unit-specific verifiable minimum-energy costs for a Resource are:

- Actual fuel cost to operate the unit at its LSL; plus
- Variable operation and maintenance expenses; plus
- Nodal implementation surcharges to operate the unit at its LSL.

Traces To:

- **Document:** *Verifiable Cost Manual*

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UPDATED OCTOBER 9, 2009

Protocol Traceability Effort Update

Tier 1 Sections				
	PTE Traced Items	Full Trace Report	Research Items	PTE Alignment Items
Section 7 – Congestion Revenue Rights	481	Posted 10/27	68	1

Alignment Item Review			
#	Category (Procedure, Protocol, Requirement)	Explanation	Change Control # / details
1	Procedure	CRR Handbook – assigned, due 12/31/09	n/a

Research Item Review	
#	Category / details
15	Research needed with business owner. Includes identification of business procedure or report/extract and updates to CRR Business Requirements.
7	Pending action by PTE team – review of answers provided by business owners
46	Removing as result of NPRR195 being passed at BOD on 10/20
68	Total above

Next Steps

- **Questions about a research item or alignment item should be forwarded via e-mail to NodalMarketTransition@ercot.com. Subject line “Protocol Traceability Question”**
- **Planned dates for Web Ex review**
 - Nov 30 – 9:30 am – 3:30pm – sections 3, 4, 5, 7, 9
 - Dec 18 – 9:30 am – 3:30pm – sections 6, 8, 16.11, 17
 - **If needed** Dec 22 – 9:30 am – 3:30pm



Market Readiness

Vikki Gates
Readiness & Transformation

Special Nodal Program Committee

16 November 2009

Participant Readiness Touch Points

2009/2010				
	November	December	January	February
Meetings		<ul style="list-style-type: none"> • NATF 12/8 	<ul style="list-style-type: none"> • NATF 1/5 	<ul style="list-style-type: none"> • NATF 2/2
Training	<ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Generation 101, 201 • Economics of LMP • Transmission 101 ◆ Settlement Workshop 	<ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Generation 101, 201 • Basic Training • Economics of LMP • Transmission 101 ◆ Settlement Workshop 	<ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Generation 101, 201 • CRR – online ◆ Settlement Workshop 	<ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Basic Training • Generation 101, 201 • CRR – instructor-led • Settlement Workshop • Operations Seminar • Economics of LMP
Outreach	<ul style="list-style-type: none"> • ERCOT & MP metrics • 8 site visits 	<ul style="list-style-type: none"> • 2 site visits • Metrics mapped to future phases 	<ul style="list-style-type: none"> • 9 site visits • Initiate Phase 3 metrics ◆ MRS #2 	<ul style="list-style-type: none"> • 7 site visits
Market trials	<ul style="list-style-type: none"> • Bi-weekly calls • Voluntary MP connectivity testing • Voluntary market web services/UI re-qualification 	<ul style="list-style-type: none"> • Bi-weekly calls • 2.1 environment closed • Sandbox decommissioned • MP Handbooks <ul style="list-style-type: none"> • SCED/LFC • CRR 	<ul style="list-style-type: none"> • Start weekly calls • Mandatory QSE/CRRRAH re-qualification begins 	<ul style="list-style-type: none"> • Weekly calls ■ Phase 3 Market Trials initiates • QSE OS qualification
			<ul style="list-style-type: none"> • MP Handbooks <ul style="list-style-type: none"> • DAM/RUC • Outage Scheduler • COMS 	

Market Participant Site Visits

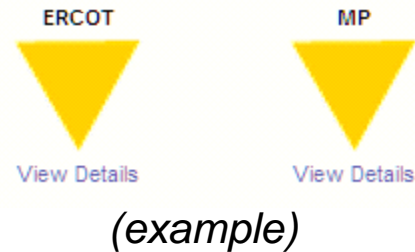
7 Outreach Site Visits have been completed

Entity	Date
<input checked="" type="checkbox"/> LOWER COLORADO RIVER AUTHORITY	9-Oct
<input checked="" type="checkbox"/> CALPINE CORP	14-Oct
<input checked="" type="checkbox"/> AUSTIN ENERGY	20-Oct
<input checked="" type="checkbox"/> CITY OF GARLAND	21-Oct
<input checked="" type="checkbox"/> GDF SUEZ ENERGY MARKETING	29-Oct
<input checked="" type="checkbox"/> ANP FUNDING	3-Nov
<input checked="" type="checkbox"/> LUMINANT ENERGY	5-Nov
<input type="checkbox"/> INVENERGY WIND DEVELOPMENT	10-Nov
<input type="checkbox"/> EXELON	11-Nov
<input type="checkbox"/> AMERICAN ELECTRIC POWER SERVICE	12-Nov
<input type="checkbox"/> CONSTELLATION ENERGY	17-Nov
<input type="checkbox"/> PSEG ENERGY RESOURCES	18-Nov
<input type="checkbox"/> FULCRUM POWER	2-Dec
<input type="checkbox"/> EAGLE ENERGY PARTNERS I LP	3-Dec
<input type="checkbox"/> STEC	9-Dec
<input type="checkbox"/> BP ENERGY COMPANY	10-Dec

Entity	Date
NRG TEXAS POWER	TBD
DIRECT ENERGY LP	5-Jan
CPS ENERGY	6-Jan
BRAZOS ELECTRIC	TBD
BTU (Bryan Texas Utilities) SERVICES	13-Jan
TOPAZ POWER MANAGEMENT	19-Jan
OCCIDENTAL	20-Jan
SHELL ENERGY	21-Jan
TENASKA POWER SERVICES	26-Jan
OPTIM ENERGY	27-Jan
APX	3-Feb
NEXTERA ENERGY	11-Feb
WIND PANEL (Houston)	16-Feb
RETAIL PANEL (Houston)	17-Feb
TRI-EAGLE ENERGY	18-Feb
XTEND ENERGY LP	2-Mar
EC AND R QSE	9-Mar

Confirmed Completed

Readiness Scorecard Approach



<http://scorecard.ercot.com>

Market Participant Readiness

2 Metrics initiate in November

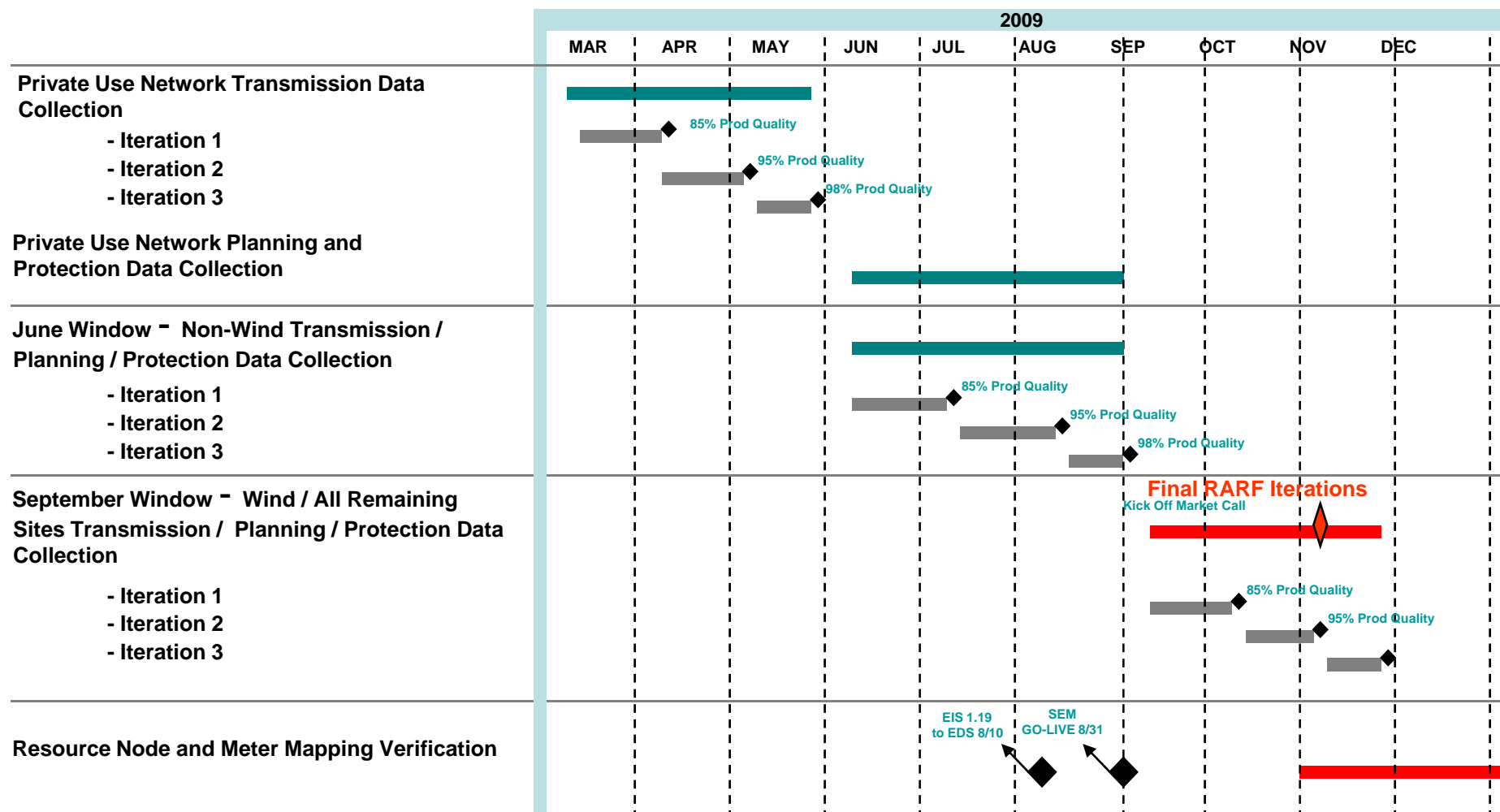
- Telemetry Performance
- Resource Registration

ERCOT Readiness Metrics

2 Metrics initiate in November

- Nodal Procedures
- Internal Nodal Training

Resource Registration Updates and Progress



RARF September Window Iteration 3: November 2-16

- Transmission assets owned by Resource Entities
- To date: 202 RARF sites; 156 accepted (77%)
- 93 total RARF sites in September window
- 60 RARFs submitted
- 53 RARFs passed screening process

Resource Node Identification and Verification

- Dependent on accurate transmission asset registration.
- Begin before end of November

Resource Registration Escalations

The following Resource Entities are not meeting the timeline for Registration Activities for transmission assets.

RARFs to confirm transmission assets not submitted since start of September Iterations

**EC AND R PANTHER CREEK WIND FARM I AND II LLC (SOUTH)
GREGORY POWER PARTNERS LP
MCADOO WIND ENERGY LLC
SCURRY COUNTY WIND LP
SNYDER WIND FARM LLC
STANTON WIND ENERGY LLC
THE DOW CHEMICAL CO
TICONA POLYMER INC
TURKEY TRACK WIND ENERGY LLC**

If Resource Registration metric were turned on today:

6 Red 

3 Amber 

93 Green 

- **Site Visit Team Goals**
 - Understand other ISOs' business processes/procedures
 - Understand how markets handle reliability and markets
 - Understand how specific systems/displays support market and reliability operations
 - Learn problems encountered in implementing new bulk power markets and corrective actions
- **Lessons Learned**
 - Teams will prepare briefing presentations/training on how the visited market performs operations tasks and how they compare with ERCOT's processes
- **Schedule**
 - Nov. 11-12: MISO
 - Nov. 17-18: CAISO
 - Dec. 9-10: NYISO

Comparing ISO Terminology

ERCOT	CAISO	Midwest ISO	NYISO
ERCOT Nodal Market	Market Redesign Technology Update (MRTU)	Midwest ISO Energy and Operating Reserve Market	NYISO Energy Market
Nodal Protocols	CAISO Tariff and Business Practice Manuals (BPMs)	Midwest ISO Tariff and Business Practice Manuals (BPMs)	NYISO Tariff
Congestion Revenue Rights (CRRs)	Congestion Revenue Rights (CRRs)	Financial Transmission Rights (FTRs), Auction Revenue Rights (ARRs)	Transmission Congestion Contracts (TCCs)
Daily Reliability Unit Commitment (DRUC)	Residual Unit Commitment (part of overall Day-Ahead Market process)	Forward Reliability Assessment Commitment (FRAC)	Day-Ahead Security Constrained Unit Commitment (SCUC); part of Day-Ahead Market
Day-Ahead Market (DAM)	Integrated Forward Market (IFM); part of overall Day-Ahead Market process	Day-Ahead Market	Day-Ahead SCUC
Hourly Reliability Unit Commitment (HRUC)	Short-Term Unit Commitment (STUC) [5 hour look-ahead]; Real-Time Unit Commitment (RTUC) [1-2 hour look-ahead]	Intraday Reliability Assessment Commitment (IRAC)	Real-Time Commitment (RTC)
Locational Marginal Price (LMP); no loss component in LMP	Locational Marginal Price (LMP)	Locational Marginal Price (LMP)	Locational Based Marginal Price (LBMP)



Monthly Financial Review

Special Nodal Program Committee

16 November 2009

Financials to be provided before SNPC meeting.

Questions ?

Appendix

Program Risk: Market Interaction Operating Level Agreements (OLAs)

◇ Potential Milestone Impact: Phase 2.1 Market Connectivity

Risk: Market interaction OLAs				Need to determine operating level agreements associated with market interactions to assist ERCOT in establishing operational thresholds. ERCOT is responsible for ensuring any market thresholds required before Go-Live are defined, managed through the appropriate stakeholder processes and communicated in a timely fashion.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
Operational Readiness Team to define OLAs for the nodal services defined in the ERCOT IT Services Catalog: <ul style="list-style-type: none"> • RT Generation Control • RT Sequence and SCED • RT Reporting and Notifications • Market Transactions and Clearing • Outage Schedules Management • Network Model Management • Enterprise Information Services • Congestion Revenue Management • MP Relationship Management • Financial Clearinghouse 				J. McCall	April/May 2010	10/12/2009: Phase 2.1 OLAs established and communicated to the market during the Oct. 8 Market Readiness Seminar. ERCOT will continue to define OLAs for each subsequent Market Trial Release via the ORT project.

Program Risk: Integration Testing

◇ Potential Milestone Impact: Market Trials

Risk: Integration Testing				Continued risk around technology delivery of business systems integration due to complexity and continuing maturing of application and data dependencies.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
<ul style="list-style-type: none"> Planned Integration Test phases and associated functional and technology components. Created effort-based testing delivery work plan to prioritize and align deliverables to key external milestones. Instituted daily PMO meetings to manage and mitigate day-to-day risks to scope and schedule deliverables. 				PMO	Ongoing	9/2/09 – Planning of Test phases and associated work plan has been completed Execution of work plan, with specific focus on January Market Trials functionality, has begun

Program Risk: Internet Explorer 6 Upgrade

◇ Potential Milestone Impact: Phase 2 Market Connectivity

Risk: Internet Explorer 6 Upgrade				Nodal Integration testing for the Market Participant (MP) User Interfaces and MIS reporting is using Internet Explorer (IE) version 6. MPs have requested ERCOT support a newer version, IE7. In addition, IE8 is also available. If the Nodal Market-Facing application requires certification against other IE versions, there will be internal and external costs associated with re-testing and updating the web-user interfaces.		
Risk Life Cycle State						
Define	Plan	Manage	Watch			
Mitigation Plans				Who	Target Date	Current Status
Currently the ERCOT Enterprise Architecture team is researching to assess impact.				S. Catoe	Complete	9/30/09 – Zonal analysis is complete and Corporate analysis is at 50 percent. Currently working on estimates to conduct impact analysis.
Nodal Impact assessment to be completed in parallel with Integration Testing over the next several weeks.				T. Baum	12/31/09	Resource assignments will be assigned and load balanced within current Phase 3 Integration Testing activities.
Determine implementation timelines based on current resource plan. Complete Nodal Change Request.				TBD	12/31/09	

Program Risk: Reconciling Protocols, Systems and Market Expectations

◇ Potential Milestone Impact: Market Trials

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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	12/22/09 (revised)	11/02/09 – SMEs are working with business owners on research and alignment items. NATF web ex for 11/30/09 and 12/18/09 to review full trace reports with Market Participants.
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	Ongoing	11/02/09 – 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	11/02/09 – status reports provided to program, NATF, TAC, Special Nodal Committee monthly.

External Audit Status Summary

Audit	Audit Points Identified	Audit Points in Execution	Date to Complete Last Point
IBM Report 7	4	4 complete	12/31/09
Utilicast Report 8	6	1 in progress	2011
Utilicast Report 10 (Morgan)	9	9 complete	
Utilicast Report 10 (Cleary)	12	2 in progress; 10 complete	12/15/09
Utilicast Report 10 (Capezzuti)	1	Complete	9/17/09

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.	Additional data center space planned as part of the Met Center disposition project (PR-80001). Those data centers should be online in mid-2011. Plans are under development to provide capacity prior to those new data centers becoming available.	R. Morgan	Jeff Floyd	TCC1 build out is complete. Bastrop DC in production Feb 2011. TCC3 in production May 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 – 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.	CLOSED. Expansion complete; no budget or schedule issues known.	N. Capezzuti	S. Grendel	9/14/09
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.	<p>Planning is complete 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.</p> <p>The schedule below reflects the Nodal test schedule:</p> <ol style="list-style-type: none"> 1. MT Phase 3 – SCED, OS Submissions, CRR Auctions due 12/15/09 2. MT Phase 4 & 4.1 - DAM, RUC, OS, CRR Invoices, Settlements and Billing due 2/15/10 3. MT Phase 5 & 6 – Remaining production procedures due 3/15/10 4. Phase 6 – Integrated final code due 6/1/10 	V. Gates	J. Adams	9/17/09

Audit Points to Address from Utilicast Report 10-2

ID	Short Description	Recommendation	Action Plan Status	Resp. Dir.	Resp. Mgr.	Target Date
UTI – 10 – 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.	SME's are working with business owners on research and alignment items. Full trace reports will be provided to NATF starting late Oct.	B. Day	K. Farley	12/15/09