Texas Nodal Market Implementation: Program Update

ERCOT Board of Directors
19 August 2008

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Vice President and Chief Information Officer

Agenda

- **Program Status**
- **Schedule Revision**
- **AREVA CIM Status**
- **ERCOT Staff / Market Participant Readiness**
- **Cost**

Program Status

ERCOT Staff Readiness status is: Amber — Amber status driven primarily by E8, the staffing metric

Market Participant Readiness status is: Amber — Amber status driven by the limited response to the Cycle 4 Survey (out-reach efforts are on-going)

Nodal Delivery status is: Red — Red status driven by quality, schedule, and cost impacts

Nodal Delivery

Scope / Quality	Schedule	Cost
Amber Red	Red	Red*

* Final cost unknown until new schedule confirmed

	Scope	Quality	Schedule	Cost
Green	Program is aligned with current protocols	All Nodal products currently achieve quality standards	Go-Live = 12/1/2008	Estimate at Complete =< 319M
Amber	Program is aligned to previous protocol versions	Most Nodal products currently achieve quality standards	Go-Live =< 30 days	Estimate at Complete =< 319M +10%
Red	Program is not aligned to protocols	Product quality not sufficient for Nodal launch	Go-Live =>30 days+	Estimate at Complete => 319M +10%

Accomplishments

- CRR5 (Operation of Annual CRR Auction and Allocation) is GREEN
  - Verifies that a Congestion Revenue Rights annual auction produced a reasonably accurate solution, allocated revenue rights to potential CRR account holders and produced accurate results for participants in statistical sample defined by CRR team

- EMO12 (Network Operations Model and State Estimator Performance) is GREEN
  - The goal for this metric is >=99% of load is modeled. Of the initial 5,000, there are only 47 remaining unobservable buses with load (<1%)

- Market Management System has received 3 patches from ABB (since the Apr. 22 delivery of MMS4) on time with at least 100 defects resolved in each patch

Nodal Integrated Schedule Update

- **As the replanning efforts began, ERCOT discovered gaps at both the individual project level and at the nodal program level**
  - Specifications had changed
  - Functionality did not work as anticipated or was missing
  - Data quality was insufficient
  - Manual workarounds were in place without sufficient time to eliminate or replace them
  - Program-level dependencies and functionality were overlooked by project silos prior to integration
  - The schedules did not allow for sufficient testing and break-fix cycles
  - Business process development and training time was insufficient

- **Items impacting the new delivery date:**
  - Deliver a schedule with a clear, achievable date
  - Allow sufficient time for TSPs to validate the network operating model
  - Allow sufficient testing time for TSPs and QSEs
  - Account for the additional complexities uncovered as part of the discovery process
  - Add time for testing and break-fix cycles
  - Include time for business process development and training within the schedule as a result of delayed deliverables
  - Include program-level activities such as release management, refactoring, coordination across projects, risk mitigation activities, and resource analysis across the program

- **ERCOT believes the current schedule revision timeline will result in a schedule with an achievable date that allows for sufficient time to deliver a quality program to meet market expectations**

AREVA (CIM) Status

- EMS CIM Importer – still testing at AREVA
- ERCOT SMEs are testing with AREVA to identify and resolve issues with the goal of being able to start/run individual applications
- ERCOT had staffing on-site and the testing is moving to ERCOT starting next week
- ERCOT is monitoring AREVA's performance trends to address continuing or potential issues
- Gating issues are related to bad or missing data

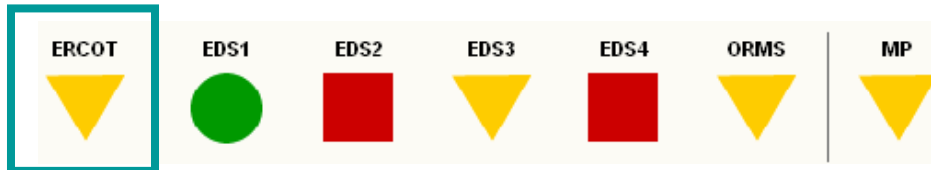| CIM Importer Components	Design Doc/ Mapping Complete	ERCOT Approval of Design Document	Code/Unit Test Complete	Integration complete - Build MOM	Stand-alone Validation Complete - No Errors	Cross Validation Complete - No Errors	Run Applications Successfully*	ERCOT Ratify Application Testing
NETMOM	Complete	Complete	Complete	Complete	Complete	In Process	In Process	
CTGMOM	Complete	Complete	Complete	Complete	Complete	In Process	In Process	
RASMOM	Complete	Complete	Complete	Complete	Finalization	In Process	In Process	
GENMOM	Complete	Complete	Complete	Complete	Complete	In Process	In Process	
SCADAMOM	Complete	Complete	Complete	Complete	Complete	In Process	In Process	
DYNRTG	Complete	Complete	Complete	Complete	Finalization	In Process	In Process	
OAGMOM	Complete	Complete	Complete	Complete	N/A	N/A	N/A	

* Run with no errors and without aborting

Complete
Finalization
In Process

Late
Not started and Not Scheduled to Start
N/A

ERCOT Readiness

ERCOT Staff Readiness status is AMBER

	ERCOT	EDS1	EDS2	EDS3	EDS4	ORMS	MP
	▼ (amber)	● (green)	■ (red)	▼ (amber)	■ (red)	▼ (amber)	▼ (amber)

	Engagement	Training	Process	Staffing	Test	Overall
ERCOT	●	▼	●	▼	●	▼
Information Technology	●	●	●	▼	●	▼
System Operations	●	▼	●	▼	●	▼
Market Operations	●	●	●	▼	●	▼
System Planning	●	●	●	▼	●	▼
Corporate	●	●	●	▼	●	▼

- **Engagement (green)**
  - ERCOT remains fully engaged

- **Training (amber)**
  - Training efforts are on-going

- **Process (green)**
  - All departments are meeting target performance levels

- **Staffing (amber)**
  - ERCOT is currently ~95% staffed (98% required for green status)
  - Recruitment is on-going

- **Testing (green)**
  - No recent developments

Market Participant Readiness status is AMBER

Top status row:

ERCOT	EDS1	EDS2	EDS3	EDS4	ORMS	MP
amber	green	red	amber	red	amber	amber

	Engagement	Connectivity	Registration and Qualification	Telemetry	Training	Trials Participation	Overall
All Market Participants	amber	green	amber	green	amber	green	amber
QSE with Resources	green	green	amber	green	green	green	amber
QSE without Resources	red	open	amber	open	red	green	red
TDSP	green	open	open	green	green	green	green
LSE	red	open	open	open	open	open	red
CRR	open	open	open	open	open	open	open

- **Engagement (amber)**
  - Limited survey response from QSEs and LSEs drives amber status
  - Out-reach efforts are on-going

- **Connectivity (green)**
  - No change

- **Registration and Qualification (amber)**
  - MP10 (resource mapping) continues to improve
  - MP11 (RARF data) – RARFs representing more than 99.5% of MWs have been submitted

- **Telemetry (green)**
  - No change

- **Training (amber)**
  - Limited survey response from QSEs drives amber status

- **Trials Participation (green)**
  - Consistently solid performance for MP15 (EDS 3 trials participation)

Cost: Element Summary

When the integrated schedule has been finalized and the financial impact determined we will incorporate this into an updated forecast

Nodal Program
Cost Element Summary
($ Millions)

Cost Element	Through June 2008		Variance (over)/under Budget
	Budget	Actual	
Internal Labor	$ 36.8	$ 35.9	$ 0.9
External Labor	84.6	80.0	4.6
Vendor	63.3	67.2	(3.9)
Hardware / Software	57.0	62.9	(5.9)
Taxes and Other	13.0	13.8	(0.8)
Subtotal	$ 254.7	$ 259.8	$ (5.1)
Finance Charge	8.6	8.1	0.5
Total	$ 263.3	$ 267.9	$ (4.6)

Nodal Financials

LTD Spend (June actuals)		268 [1]
July (projected)		12
Committed contracts	40	
July contracts/July NPRRs	6	
Total commitments [2]		46
Total spend and commitments		326
Approved budget		319
Potential EAC Variance (over)		(7)

(1) Values represent $1 million

(2) Contract commitments generally have 30-day out clauses

ERCOT

Questions ?