



Nodal Program Update

Jason Iacobucci

Nodal Program Manager

Special Nodal Program Committee
15 February 2010

Today's Agenda

- **Program Status**
- **Defects Reporting & Program Risks**
- **Market Readiness**
- **Traceability**
- **Financials**
- **Appendix**

289 Days to Go-Live

0 Items Impacting Go-Live Date

• Market Trials 3.0:

- 247 of 275 QSEs Qualified for MMS transaction submittal
 - 79 / 86 QSEs w/ Resources
- 97 % of Generation Qualified

– **Congestion Revenue Rights (CRR)**

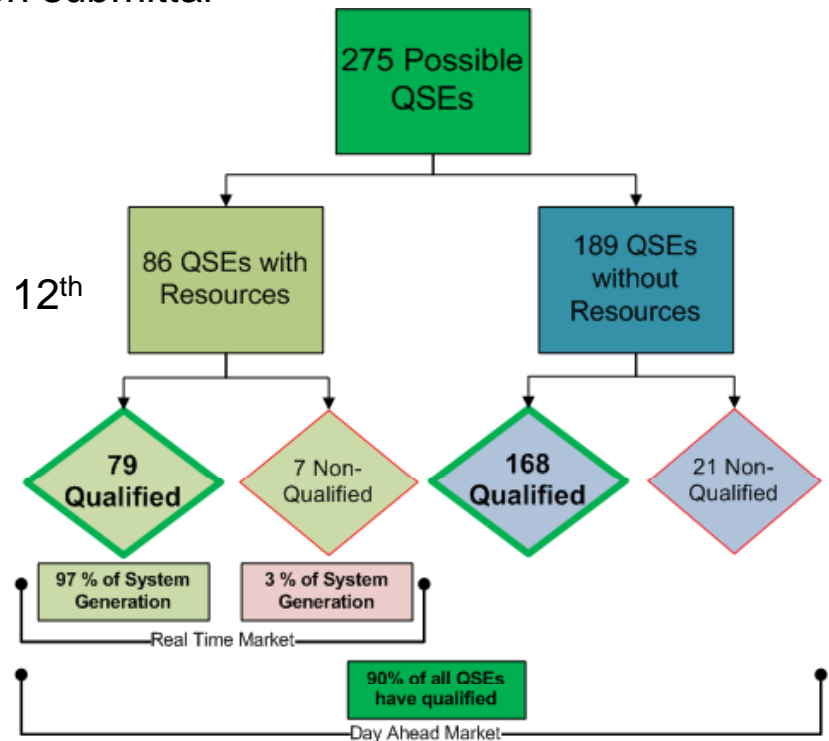
- 54 of 80 CRRAH Qualified to date
- 1st Monthly Auction for March ran on February 12th
 - 33 MP's participated – 3,103 total bids

– **Real Time Markets / Outage Scheduler**

- Started Feb 1st
 - Window Closes for Qualification on Aug 13th
 - Real-Time LMPs posting every 5 minutes
 - Reports available on Nodal MIS to all MPs
 - Running on CIM model NMMS/EMS/MMS
 - QSE dashboards posting on Fridays to reflect submission performance metrics (Feb 11th)

- Outage Scheduler available to QSEs and TSPs

– **March 1st starts Six month LMP analysis**



289 Days to Go-Live

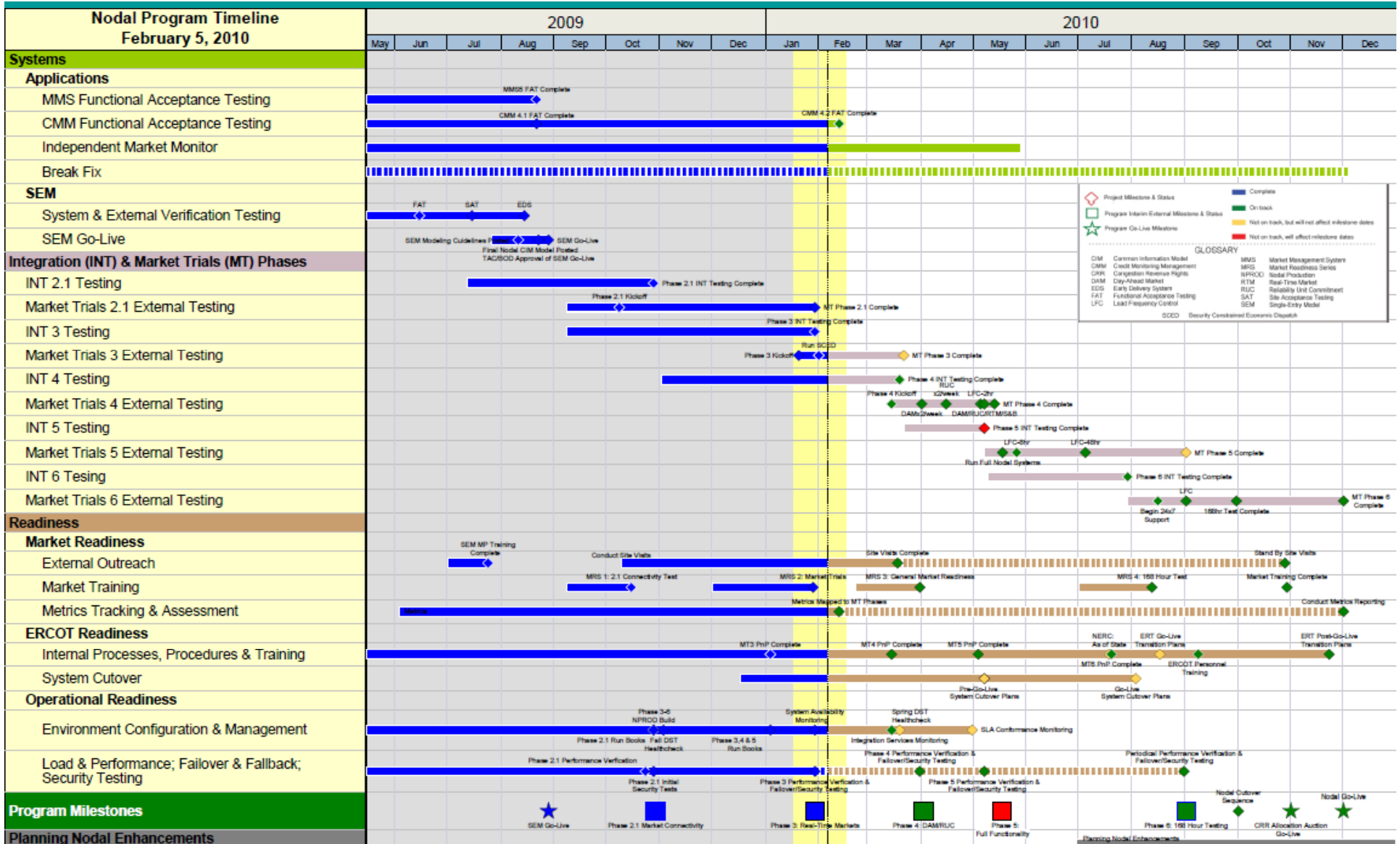
0 Items Impacting Go-Live Date

- **Market Trials 4.0: DAM/RUC**
 - Starting Thursday Apr 1st, for Operating Day Friday April 2nd
 - On Schedule
 - Submission Qualifications underway in Market Trials 2.1
- **Market Trials 5.0: Full Functionality**
 - Starting May 17th
 - 2 Week Slippage
 - Mitigation plan in place to pull back on track
 - » Overtime and budget monitoring
- **Market Readiness**
 - 26 of 35 outreach sessions completed
 - Market Trials Kickoff
 - Executive Briefing

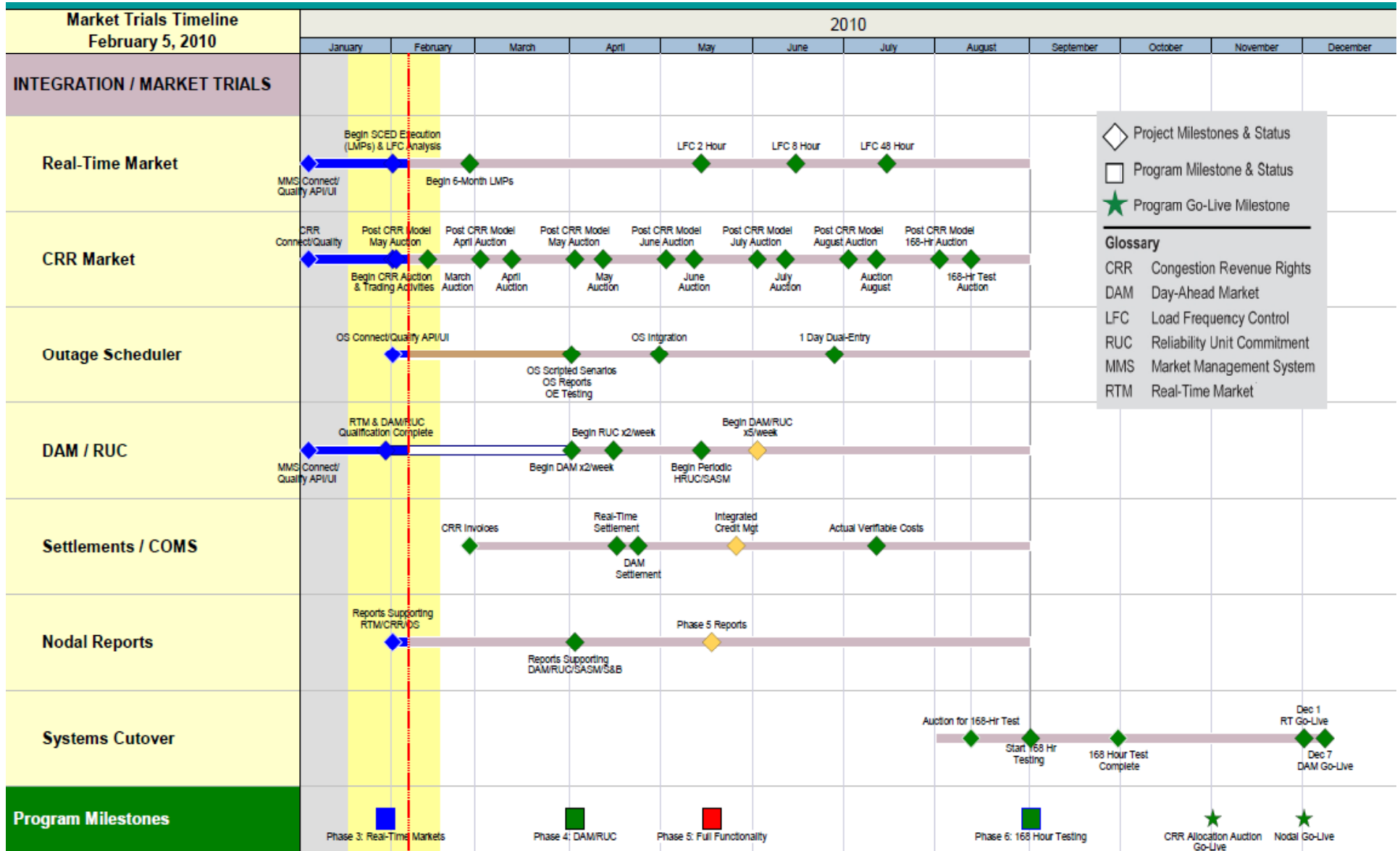
Key Takeaways:

- Continue ramp-up of participation in Real-Time Market
 - Offers- Periodic exhausting of offers, LMP goes to cap (\$2,250)
 - Telemetry- Continued QSE/TSP focus on telemetered data
- Continue to increase CRR Auction participation
- Metrics/progress beginning to light up for market trials
- Need TSP commitment to submit outstanding model updates and perform validation by 2/29/2010

Integrated Nodal Timeline



2010 Market Trials Timeline



Program Milestone Schedule Mitigation

■ Phase 5: Full Functionality

Integration Testing Schedule is still two weeks behind: No Impact on Go-Live

– Scope

- End to end integration testing
- Begin HRUC/SASM
- Daylight Savings time change verification
- Phase 5 performance verification

– Mitigation Strategy

- Continue to leverage weekend overtime for Phase 5 test
- Prioritize and phase in the delivery of reports during Market Trials
- Prioritize Testing to ensure the critical functionality and reports are completed first
- Prioritize must have End-to-End scenarios
- Continue to efficiently schedule testing and release management windows

Nodal Program Risks & Issues

| Risk/Issue | Impacted Milestone | Target | Category | Probability | Severity | Status |
|--|--------------------|-----------------|---------------------------|-------------|----------|---|
| Integration Testing - Risk <i>Continued risk around technology delivery of business systems integration due to complexity and continuing maturing of application and data dependencies.</i> | Program | May 2010 | Scope / Schedule / Budget | Low | Med | <ul style="list-style-type: none"> Phase 3 complete Phase 4 On track; planning complete, execution in progress |
| Market Interaction Operating Level Agreements (OLAs) <i>Need to determine operating level agreements associated with market interactions to assist ERCOT in establishing operational thresholds:</i> <ul style="list-style-type: none"> -Network Model Load Frequency -DAM Sizing; -CRR sizing -Reporting | Program | April/ May 2010 | Scope / Budget | High | Low | <ul style="list-style-type: none"> On track Phase 3 complete Phase 4 and 5 OLA definitions in process NATF and NDSWG heavily involved in issue. Joint working session scheduled for 02/16/10 On track; presented to NATF on 02/02/10 On track; ERCOT is researching comparable CRR market sizes in PJM, CAISO, and MISO On track |
| Inadequate Backup for ICCP Failure: <i>Current Protocol Language does not allow ERCOT to use State Estimator results as a backup input to SCED, LFC, & NSA processes in the event of an ICCP failure from both sources of Resource Status.</i> | Program | April/ May 2010 | Scope / Schedule / Budget | High | High | <ul style="list-style-type: none"> ERCOT working on an impact analysis and NPRR language for consideration |

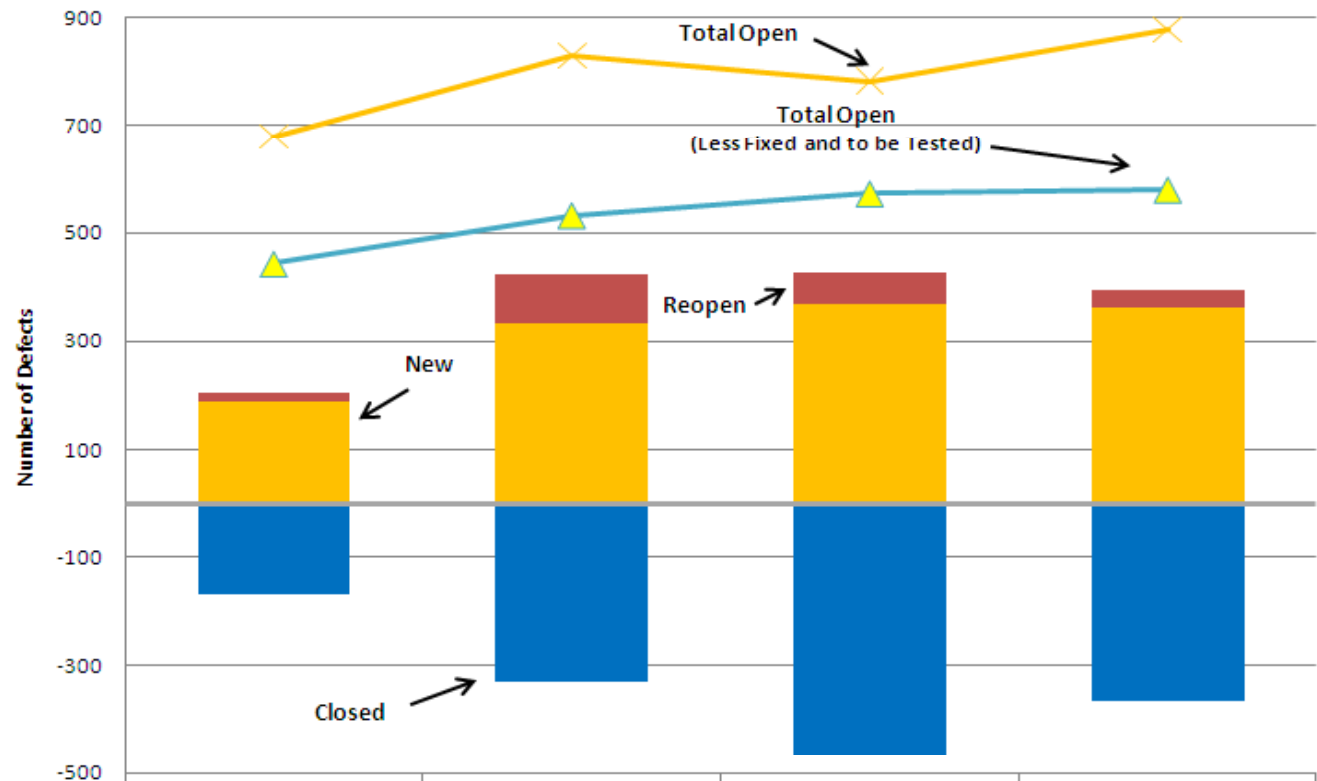
Nodal Program Risks & Issues

| Risk/Issue | Impacted Milestone | Target | Category | Probability | Severity | Status |
|---|--------------------|-----------|---------------------------|-------------|----------|--|
| <p>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></p> | Phase 3 | Complete | | | | <ul style="list-style-type: none"> Complete |
| <p>Credit Management – Business & Technical Exposure <i>Credit Management rules and exposure calculations will change significantly with the implementation of the Nodal Program. During the requirements and design phase of the program stakeholder concerns have been expressed that may result in requested system changes as the program moves into Market Testing of Credit Management.</i></p> | Phase 5 | July 2010 | Scope / Schedule / Budget | High | Med | <ul style="list-style-type: none"> ERCOT business and Nodal Program reviewing Credit concerns and next steps. |

Nodal Defects Trends - High Priority (Must Fix Before Go-Live)

- Defect counts increased as expected due to planned software migrations into Nodal iTest and extensive integration testing efforts.

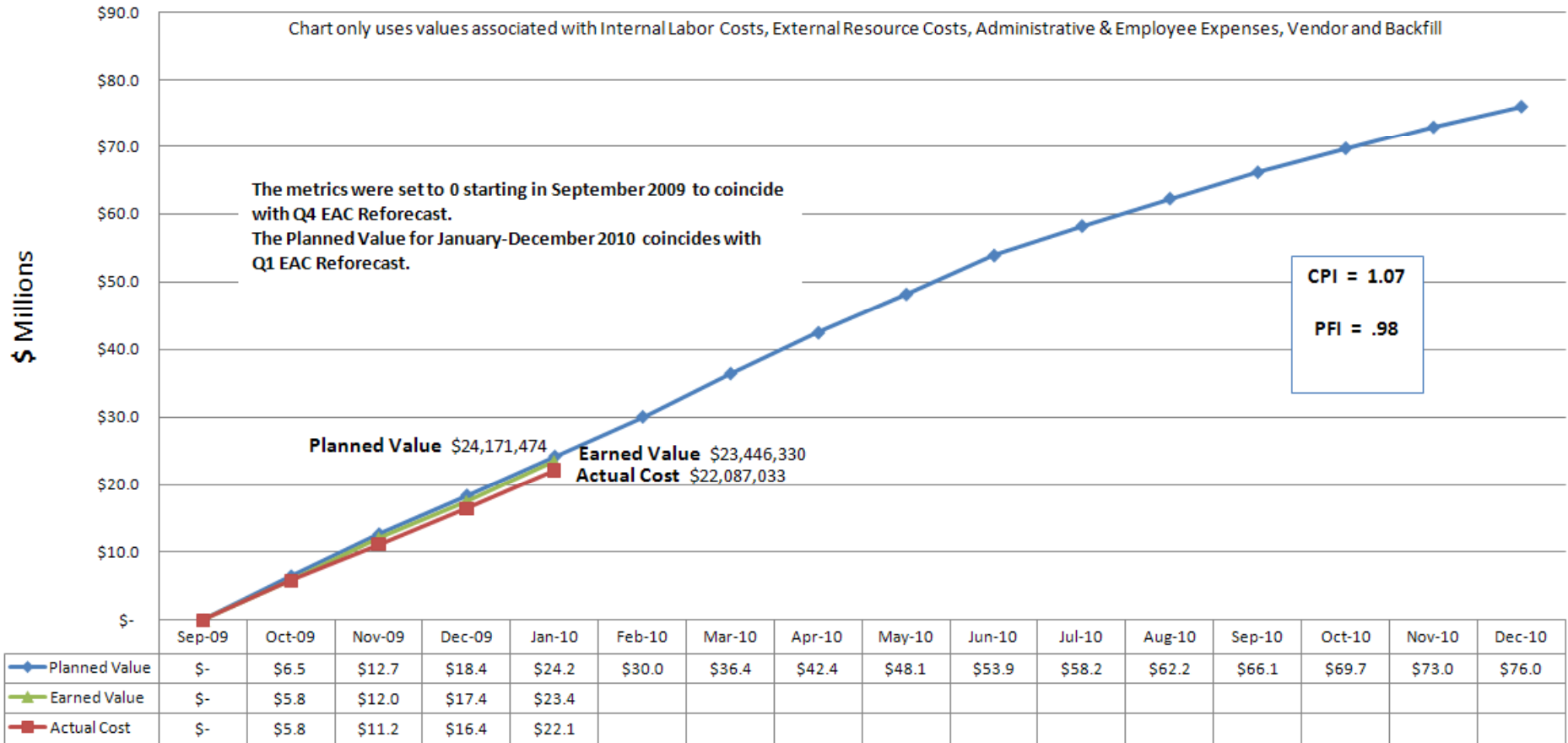
**Nodal Defects
Total Open vs. Monthly Variation**



| | October | November | December | January |
|-------------------------------------|---------|----------|----------|---------|
| Closed | -167 | -328 | -464 | -364 |
| Reopened | 18 | 91 | 61 | 31 |
| New | 187 | 333 | 367 | 362 |
| Total Open | 679 | 830 | 783 | 878 |
| Total Open - (Fixed & to be Tested) | 443 | 532 | 572 | 579 |

Earned Value for the Nodal Program

Nodal Program





Market Readiness

Matt Mereness
Readiness & Transformation

Special Nodal Program Committee

15 February 2010

Participant Readiness Touch Points

2010

| | February | March | April | May |
|----------------------|--|--|--|---|
| Meetings | <ul style="list-style-type: none"> • NATF 2/2, 2/16,2/19 | <ul style="list-style-type: none"> • NATF 3/2 | <ul style="list-style-type: none"> • NATF 4/6 | <ul style="list-style-type: none"> • NATF 5/4 |
| Training | <ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Basic Training • Generation 101, 201 • CRR – instructor-led ◆ Settlement Workshop • Operations Seminar ◆ Wind/Retail Wkshp | <ul style="list-style-type: none"> • Nodal 101 • LSE 201 • Basic Training • Generation 101, 201 • CRR – instructor-led ◆ Settlement Workshop • Operations Seminar | <ul style="list-style-type: none"> • Nodal 101 • Trans 101 • Generation 101, 201 • CRR – instructor-led • NMMS • Economics of LMP ◆ Combined Cycle Workshop | <ul style="list-style-type: none"> • Nodal 101 • Trans 101 • Generation 101, 201 • CRR – instructor-led • NMMS • Economics of LMP |
| Outreach | <ul style="list-style-type: none"> • 5 site visits • Additional Phase 3 metrics • Standby site visits mitigation approach | <ul style="list-style-type: none"> • 4 site visits • Scheduled Site Visits conclude ◆ MRS #3 March 25th | <ul style="list-style-type: none"> • Standby site visits • Phase 4 metrics launch | <ul style="list-style-type: none"> • Standby site visits • Metrics monitoring |
| Market trials | <ul style="list-style-type: none"> • Weekly calls • Phase 3 Market Trials initiates • QSE OS qualification • Phase 4 Handbooks <ul style="list-style-type: none"> • DAM/RUC • MIS | <ul style="list-style-type: none"> • Weekly calls • Phase 3 Execution • Phase 4 Handbooks <ul style="list-style-type: none"> • Updates to prior handbooks • LFC individual QSE tests | <ul style="list-style-type: none"> • Weekly calls • Phase 4 Market Trials initiates • Phase 5 Handbooks <ul style="list-style-type: none"> • Updates to prior handbooks • Credit | <ul style="list-style-type: none"> • Weekly calls • 2 hr system-wide LFC test • Phase 5 Market Trials initiates |

◆ Key activities, limited offering



Next 60-days of Classes and Settlement Workshops

| Course | Start Date | Location |
|---------------------------------|-------------|--|
| Generation 101 | February 16 | Austin Airport Marriott South (Austin) |
| Network Model Management | February 18 | ERCOT Met Center (Austin) |
| ★ Settlements Workshop –RUC/RTM | February 23 | ERCOT Met Center (Austin) |
| ERCOT Nodal 101 | February 25 | ERCOT Met Center (Austin) |
| Load Serving Entity 201 | March 3 | ERCOT Met Center (Austin) |
| Economics of LMP | March 8 | Norris Conference Center (Houston) |
| Basic Training Program | March 8 | Austin Airport Marriott South (Austin) |
| Congestion Revenue Rights | March 9 | Norris Conference Center (Houston) |
| ★ Settlements Workshop –RUC/RTM | March 9 | City of Garland Fire Building (Dallas) |
| ★ Settlements Workshop –RUC/RTM | March 23 | Calpine (Houston) |

Enrollment at: <http://nodal.ercot.com/training/courses/index.html>

Readiness Workshops

Wind Panel
Hosted by Horizon Wind
February 16, 2010
Houston, TX
9-3pm

Retail Panel
Hosted by StarTex
February 17, 2010
Houston, TX
9-3pm

Agenda:

- **Outreach: Program Update**
- **Outreach: Real-Time Market**
- **Outreach: Merged DAM&RUC**
- **Credit Management**
- **Wind Resource discussion**

Agenda:

- **Outreach: Program Update**
- **Outreach: Merged DAM&RTM**
- **Outreach: CRR Auction**
- **Credit Management**
- **Retail operations discussion**

RSVP required due to room limitations, but WebEx available

Wind- <http://www.ercot.com/calendar/2010/02/20100216-MT>

Retail- <http://www.ercot.com/calendar/2010/02/20100217-MT>

Market Participant Site Visits

26 Outreach Site Visits have been completed

Confirmed Completed

| Entity | Date | Entity | Date |
|---|--------|--|--------|
| <input checked="" type="checkbox"/> LOWER COLORADO RIVER AUTHORITY | 9-Oct | <input checked="" type="checkbox"/> NRG TEXAS POWER | 15-Dec |
| <input checked="" type="checkbox"/> CALPINE CORP | 14-Oct | <input checked="" type="checkbox"/> DIRECT ENERGY LP | 5-Jan |
| <input checked="" type="checkbox"/> AUSTIN ENERGY | 20-Oct | <input checked="" type="checkbox"/> CPS ENERGY | 6-Jan |
| <input checked="" type="checkbox"/> CITY OF GARLAND | 21-Oct | <input checked="" type="checkbox"/> BTU (Bryan Texas Utilities) SERVICES | 13-Jan |
| <input checked="" type="checkbox"/> GDF SUEZ ENERGY MARKETING | 29-Oct | <input checked="" type="checkbox"/> OCCIDENTAL | 20-Jan |
| <input checked="" type="checkbox"/> ANP FUNDING | 3-Nov | <input checked="" type="checkbox"/> TENASKA POWER SERVICES | 26-Jan |
| <input checked="" type="checkbox"/> LUMINANT ENERGY | 5-Nov | <input checked="" type="checkbox"/> OPTIM ENERGY | 27-Jan |
| <input checked="" type="checkbox"/> INVENERGY WIND DEVELOPMENT | 10-Nov | <input checked="" type="checkbox"/> APX | 3-Feb |
| <input checked="" type="checkbox"/> EXELON | 11-Nov | <input checked="" type="checkbox"/> E. ON | 9-Feb |
| <input checked="" type="checkbox"/> AMERICAN ELECTRIC POWER SERVICE | 12-Nov | <input type="checkbox"/> WIND PANEL (Houston) | 16-Feb |
| <input checked="" type="checkbox"/> CONSTELLATION ENERGY | 17-Nov | <input type="checkbox"/> RETAIL PANEL (Houston) | 17-Feb |
| <input checked="" type="checkbox"/> PSEG ENERGY RESOURCES | 18-Nov | <input type="checkbox"/> TRI-EAGLE ENERGY | 18-Feb |
| <input checked="" type="checkbox"/> J ARON | 19-Nov | <input type="checkbox"/> NEXTERA ENERGY | 26-Feb |
| <input checked="" type="checkbox"/> FULCRUM POWER | 2-Dec | <input type="checkbox"/> XTEND ENERGY LP | 2-Mar |
| <input checked="" type="checkbox"/> EAGLE ENERGY PARTNERS I LP | 3-Dec | <input type="checkbox"/> TOPAZ | 9-Mar |
| <input checked="" type="checkbox"/> STEC | 9-Dec | <input type="checkbox"/> BRAZOS ELECTRIC | 10-Mar |
| <input checked="" type="checkbox"/> BP ENERGY COMPANY | 10-Dec | <input type="checkbox"/> SHELL ENERGY | 11-Mar |
| | | <input type="checkbox"/> FORMOSA UTILITY | 16-Mar |
| | | <input type="checkbox"/> WESTAR | 18-Mar |

Active MP Metrics (as of 2/12/2010)

| Metric Name | Current Score (as of 2/12/2010) | Applies to | Weight | Green % | Yellow % | Red % | Not Scored % | Primary Criteria | Notes |
|--|---------------------------------|------------|------------------------------------|---------|----------|-------|--------------|--|---|
| MP3 Market Submissions Connectivity Qualification | Green | QSERS | Generation Ratio Share | 97.2% | 2.8% | 0.0% | 0.0% | Successful submission of RT and DAM transactions (275 total entities included sub-QSEs). | 79/86 QSERS Qualified (including sub-QSEs). |
| | Amber | QSEs | Even weighting | 88.9% | 5.8% | 1.1% | 4.2% | | 168/189 QSEs qualified (including sub-QSEs). Below 95% threshold for overall GREEN. |
| MP6 Telemetry Compliance with Nodal Protocols 3.10.7.5 | Green | QSERS | Generation Ratio Share | 87.7% | 0.6% | 0.0% | 11.7% | 100% expected State Estimator telemetry submitted. | 42/45 QSERS completed (parent QSEs only). 3492/3500 SE points provided (99.1%). |
| | Green | QSERS | Generation Ratio Share | 87.7% | 0.0% | 0.6% | 11.7% | 100% expected SCED telemetry submitted. | 42/45 QSERS completed (parent QSEs only). 7621/7633 SCED points provided (99%). |
| | Green/White only | TSPs | Ownership Ratio Share | 83.4% | 0.0% | 0.0% | 16.6% | 100% expected TSP telemetry per ICCP Handbook submitted | 15/20 TSPs completed. 12600/12956 TSP CB and LD points provided (94.9%). |
| MP11 Resource Registration | Green | REs | Registered MW Capacity Ratio Share | 97.9% | 1.3% | 0.8% | 0.0% | RARF validated, Decision Making Authority form submitted, and GENMAP validated | 151/159 Resources completed (95%). |
| MP15-A Real-time Market Participation | Green/White only | QSERS | Generation Ratio Share | 9.8% | 0.0% | 0.0% | 90.2% | Weekly average of daily SCED submissions (energy offer curves and/or | 13/86 QSERS above 95% weekly average for SCED submissions. AMBER/RED scores light up 2/24/2010 . |
| MP15-B CRR Connectivity Qualification | Red | CRRAHs | Even weighting | 71.6% | 6.2% | 11.1% | 11.1% | Successful submission CRR transactions | 57/83 CRRAHs qualified. 13 CRRAHs non-responsive to outreach calls. Greater than 5% overall RED. |
| MP20 Outage Scheduler Connectivity Qualification | Green/White only | QSERS | Generation Ratio Share | 34% | 0.0% | 0.0% | 66% | Successful submission of OS transactions | 13/86 QSERS qualified. AMBER/RED scores light up 4/7/2010 after OS window closes. |
| | Green/White only | TSPs | Ownership Ratio Share | 6% | 0% | 0% | 94% | | 1/20 TSPs qualified. |

| | |
|-------|---|
| GREEN | Submissions complete |
| AMBER | Submissions not complete, but actively working with ERCOT |
| RED | Submissions not complete, participation not adequate |



Red Market Participants (in order of importance)

MP3 Market Submissions Connectivity Qualification

Total: 189 QSEs without Resources (including sub-QSEs) *

Green: 168 complete

Amber: 11 (working with ERCOT)

Red: 2 (unresponsive).

New: 8 (allowed 30 day grace period)

UBS AG LONDON BRANCH
VANTAGE WIND SERVICES LLC

MP6 Telemetry Compliance with Nodal Protocols

3.10.7.5

Total: 45 QSEs with Resources (parent QSEs only)

Green: 42

Amber: 1 for State Estimator points (< 100% and >= 80% telemetry provided)

Red: 1 for SCED points (< 80% telemetry provided).

EDISON MISSION MARKETING AND TRADING INC

MP15-B CRR Connectivity Qualification

Total: 81 CRRAs

Green: 58 complete

Amber: 5 Amber (working with ERCOT)

Red: 9 (unresponsive)

New: 9 (allowed 30 day grace period)

AMBRIDGE ENERGY LLC (CRRAs)
COMMERCE ENERGY INC (CRRAs)
CREDIT SUISSE ENERGY LLC (CRRAs)
FRANKLIN POWER LLC (CRRAs)
MERRILL LYNCH COMMODITIES INC (CRRAs)
PEPCO ENERGY SERVICES INC (CRRAs)
PRIVATEMARKETS INC (CRRAs)
STAR ELECTRICITY LLC DBA STARTEX POWER (CRRAs)
VELOCITY AMERICAN ENERGY MASTER I LP (CRRAs)

The applicable primary contact for each Market Participant has been contacted via phone and e-mail by ERCOT's Wholesale Client Services Department notifying them of the change to RED status.

* MP3 applies to QSEs with and without Resources. Currently, the only Market Participants with a RED status for MP3 are QSEs without Resources.





Traceability

Betty Day
Program Control & Review

Special Nodal Program Committee
15 February 2010

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 (Dec NATF) | 928 | 171 | 550 | 193 | 67 |
| Section 4 – Day Ahead Operations (Nov NATF) | 635 | 66 | 63 | 76 | 3 |
| Section 5 – Transmission Security Analysis and RUC (Nov NATF) | 166 | 30 | 53 | 15 | 10 |
| Section 6 – Adjustment Period and Real-Time Operations (Jan NATF) | 926 | 71 | 441 | 55 | 39 |
| Section 7 – Congestion Revenue Rights (Oct NATF) | 445 | 54 | 58 | 27 | 1 |
| Section 8 – Performance Monitoring (Jan NATF) | 226 | 32 | 130 | 82 | 9 |
| Section 9 – Settlement & Billing (Nov NATF) | 408 | 0 | 128 | 55 | 2 |
| Section 16.11 – Financial Security for Counter Parties (Dec NATF) | 198 | 2 | 33 | 25 | 3 |
| Section 17 – Market Monitoring & Data Collection (Dec NATF) | 25 | 7 | 21 | 1 | 6 |
| Total | 3956 | 433 | 1477 | 529 | 140 |



Alignment Item Categories

| | Total | Category of Alignment Items | | | | |
|---|------------|-----------------------------|-----------|---------------------|-----------------------------|------------------------------|
| | | Alignment Items | NPRR | TBD / need category | Business Requirement Update | Business Procedures Revision |
| Section 3 – Management Activities for the ERCOT system | 67 | 6 | 31 | 19 | 7 | 4 - Report |
| Section 4 – Day Ahead Operations | 3 | 2 | 0 | 1 | 0 | 0 |
| Section 5 – Transmission Security Analysis and RUC | 10 | 5 | 0 | 2 | 3 | 0 |
| Section 6 – Adjustment Period and Real-Time Operations | 39 | 11 | 6 | 12 | 6 | 4- Report |
| Section 7 – Congestion Revenue Rights | 1 | 0 | 0 | 0 | 0 | Handbook |
| Section 8 – Performance Monitoring | 9 | 2 | 1 | 3 | 2 | 1- Report |
| Section 9 – Settlement & Billing | 2 | 2 | 0 | 0 | 0 | 0 |
| Section 16.11 – Financial Security for Counter Parties | 3 | 1 | 0 | 1 | 1 | 0 |
| Section 17 – Market Monitoring & Data Collection | 6 | 1 | 2 | 1 | 1 | 1- Report |
| Total | 140 | 30 | 40 | 39 | 20 | 11 |

Transition to ERT

The SMEs are transitioning to ERT team.

ERT and PMO will prioritize the remaining work within the ERCOT Readiness activities.

- **NPRRs – SMEs work with Business Owners to draft NPRRs to put through CEO review process and governance process**
- **Alignment Items**
 - TBD Category
 - Business Requirement Updates
 - Business Procedures Revisions
 - Other
- **Research Items**
- **In Progress Business Procedures**
- **In Progress Reports / Extracts**

ERT and PMO will report to market closure of items

Protocol Traceability Effort Update

Tier 2 (Moderate): 10, 11, 12, 13, 16 – no alignment items

- For each Tier 2 section, reviewed all NPRR, reviewed the Impact Analysis for system impacts
 - Reviewed business requirements and listed appropriate sections for coverage
 - Reviewed business procedure lists and listed appropriate titles for coverage
 - Reviewed reports/extracts list on ERCOT Master Information List (EMIL) and listed appropriate

Tier 3 (Low): 1, 2, 14, 15, 18, 19, 20, 21, 22, 23, 24 – no alignment items

- For each Tier 3 section, reviewed all NPRR, reviewed the Impact Analysis for system impacts
 - Reviewed business requirements and listed appropriate sections for coverage

Full presentation can be found at ERCOT Readiness Page, under Key Documents (<http://nodal.ercot.com/readiness/index.html>)

Title – Protocol Traceability Tier 2/3 Presentation (as of 1/20/10)



Monthly Financial Review

Don Jefferis

Interim Director – Nodal Financial Management
Office

Special Nodal Program Committee

15 February 2010

Financial Review – January 2010 Performance

Approved Forecast to Actual Comparison Month of January 2010

| Line | Cost Summary | Forecast | Actual | Forecast Variance | Forecast Cumulative |
|------|---|--------------|--------------|----------------------|---|
| | | | | | Variance <i>(Pending Contingency Mgmt Disposition)</i> |
| 1 | Internal Labor Costs | \$2.1 | \$2.3 | (0.2) | (\$0.2) |
| 2 | Backfill Labor Costs | 0.2 | 0.1 | 0.1 | 0.1 |
| 3 | External Resource Costs | 3.4 | 3.2 | 0.2 | 0.2 |
| 4 | Software & Software Maintenance | 0.3 | 0.2 | 0.1 | 0.1 |
| 5 | Hardware & Hardware Maintenance | 1.0 | 0.8 | 0.2 | 0.2 |
| 6 | Other | 0.1 | 0.0 | 0.1 | 0.1 |
| 7 | Sub-total Direct Project Costs | \$7.1 | \$6.6 | \$0.5 | \$0.5 |
| 8 | Board Discretionary Fund | \$0.0 | \$0.0 | \$0.0 | \$0.0 |
| 9 | Allocations | \$0.4 | \$0.3 | \$0.1 | \$0.1 |
| 10 | Finance Charges | 1.1 | 1.1 | 0.0 | 0.0 |
| 11 | Sub-total Indirect Project Costs | \$1.5 | \$1.4 | \$0.1 | \$0.1 |
| 12 | | | | | |
| 13 | Total | \$8.6 | \$8.0 | \$0.6 | \$0.6 |

Amounts in millions

Favorable / (Unfavorable)

Financial Review - LTD Performance through January 2010

Nodal Program

Approved Forecast to Actual Comparison

Life-to-Date through January 2010

| Line | Cost Summary | Forecast | Actual | Variance | Forecast Remaining |
|------|---|----------------|----------------|--------------|--------------------|
| 1 | Internal Labor Costs | \$58.5 | \$58.7 | (\$0.2) | \$25.1 |
| 2 | Backfill Labor Costs | 5.5 | 5.4 | 0.1 | \$1.8 |
| 3 | External Resource Costs | 258.0 | 257.8 | 0.2 | 24.5 |
| 4 | Software & Software Maintenance | 25.9 | 25.8 | 0.1 | 3.2 |
| 5 | Hardware & Hardware Maintenance | 52.1 | 51.9 | 0.2 | 3.2 |
| 6 | Other | 2.1 | 2.0 | 0.1 | 11.3 |
| 6a | Sales Tax Refund | (\$7.3) | (\$7.3) | 0.0 | 0.0 |
| 7 | Sub-total Direct Project Costs | \$394.8 | \$394.3 | \$0.5 | \$69.1 |
| 8 | Board Discretionary Fund | \$0.0 | \$0.0 | \$0.0 | \$105.5 |
| 9 | Allocations | \$20.4 | \$20.3 | \$0.1 | \$2.6 |
| 10 | Finance Charges | 27.0 | 27.0 | 0.0 | 24.4 |
| 11 | Sub-total Indirect Project Costs | \$47.4 | \$47.3 | \$0.1 | \$27.0 |
| 12 | | | | | |
| 13 | Total | \$442.2 | \$441.6 | \$0.6 | \$201.6 |

Amounts in millions

Favorable / (Unfavorable)

Note 1: Forecast consists of actuals through January 2010 and re-forecast February 2010 forward

Note 2: Actual amounts in 2009 are preliminary and unaudited

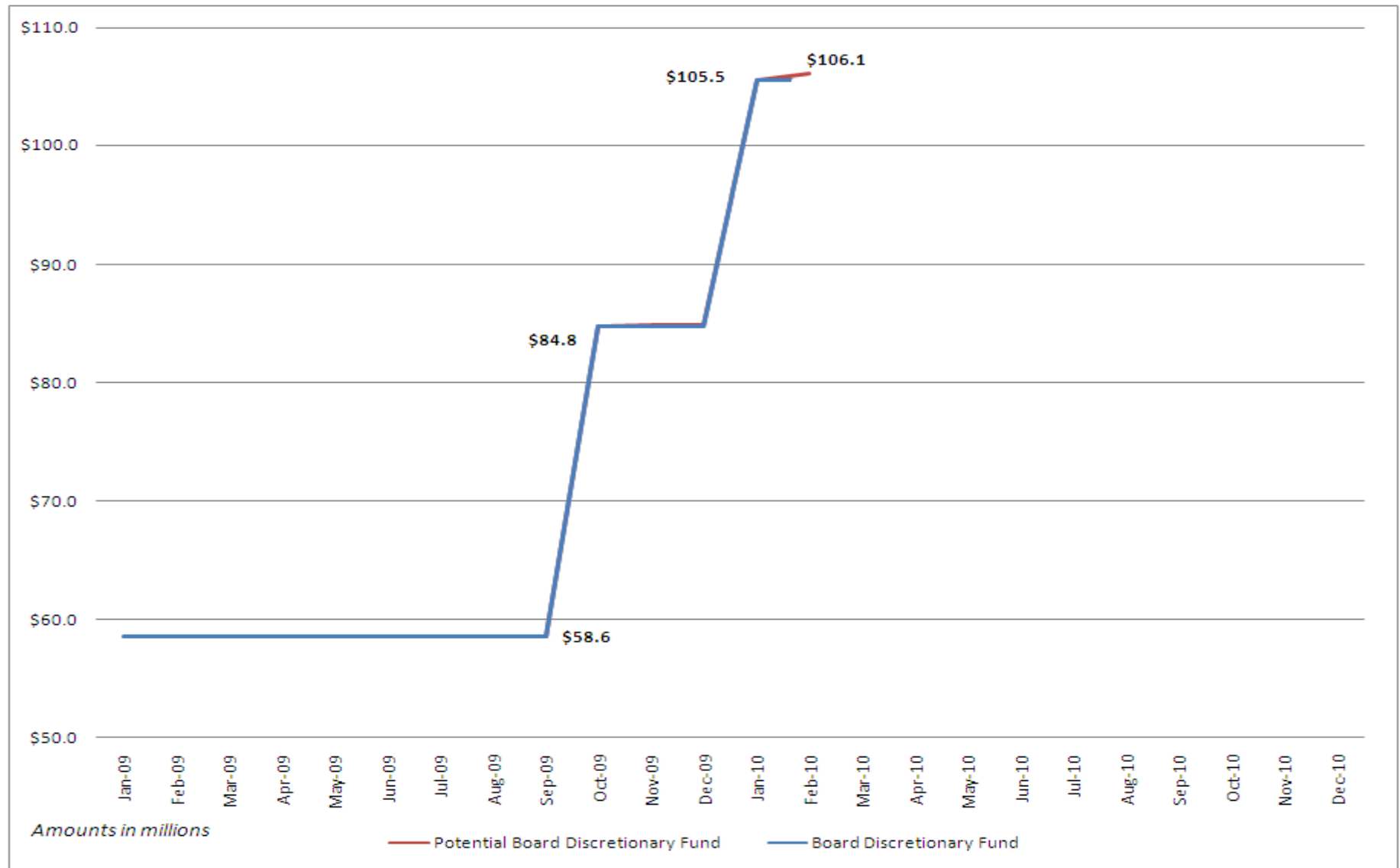


Board Discretionary Fund Summary

| Date | Beginning Balance | Sources (Additions) | | | | Uses (Subtractions) | | | | Ending Balance |
|----------|-------------------|----------------------|----------------------------------|----------------|------------------|----------------------|---------------------------|----------------------------------|----------------|----------------|
| | | Direct Program Costs | Facilities & Support Allocations | Finance Charge | Sales Tax Refund | Direct Program Costs | CTO Risk Contingency Fund | Facilities & Support Allocations | Finance Charge | |
| 09/30/09 | \$58.6 | 21.7 | 1.8 | 15.1 | | (10.1) | (2.3) | | | \$84.8 |
| 12/31/09 | \$84.8 | 12.1 | 0.7 | 11.7 | 7.3 | | (10.8) | (0.3) | | \$105.5 |

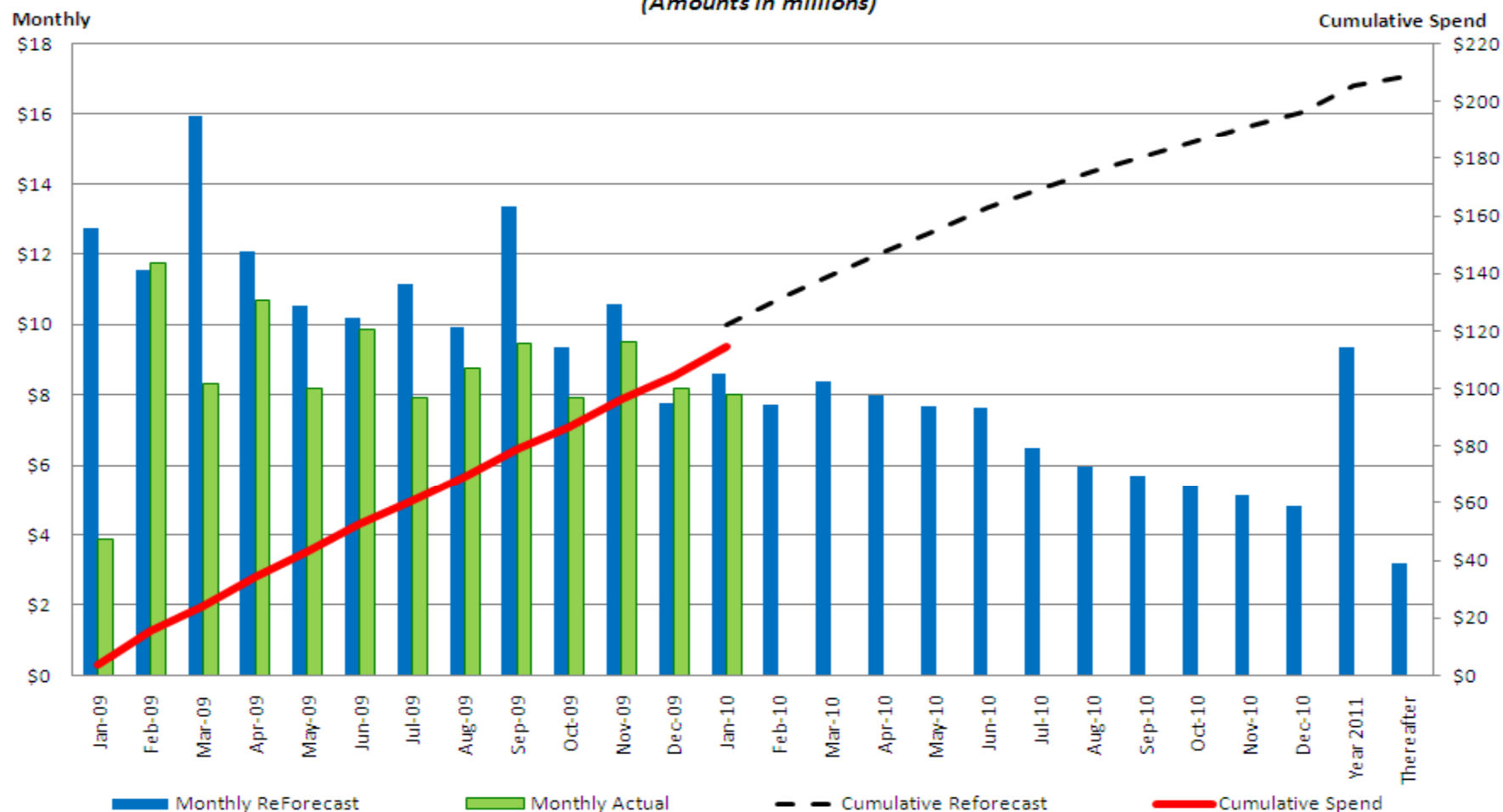
Amounts in Millions

Board Discretionary Fund



Program Cost Management – 2009 and 2010 Forecast

Monthly Budget, Forecast and Actual Analysis (Amounts in millions)

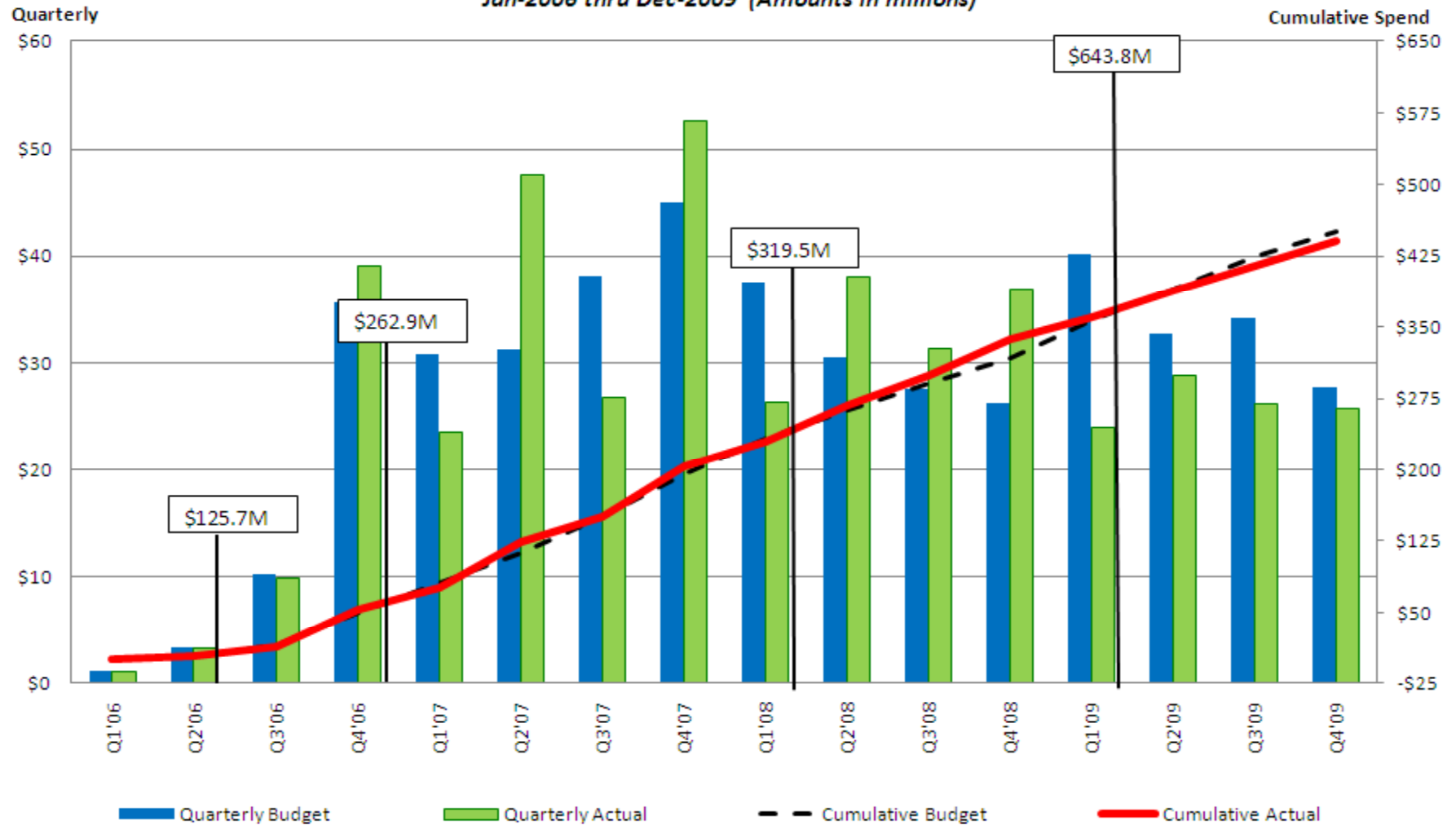


Note: Year 2011 and thereafter are finance charges

Program Cost Management – 2006 to 2009 Quarterly

Quarterly Budget, Forecast and Actual Analysis

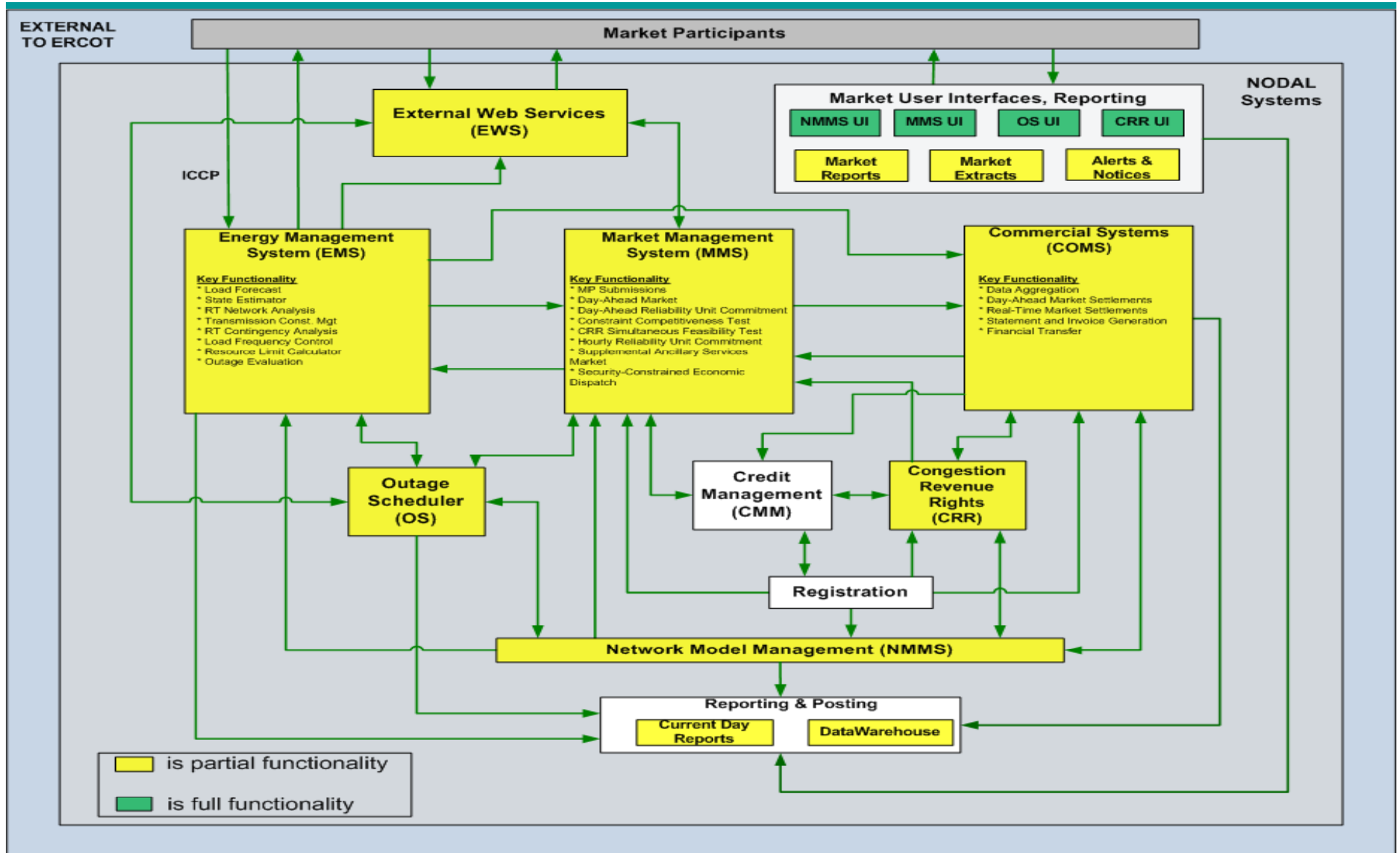
Jan-2006 thru Dec-2009 (Amounts in millions)



Questions ?

Appendix

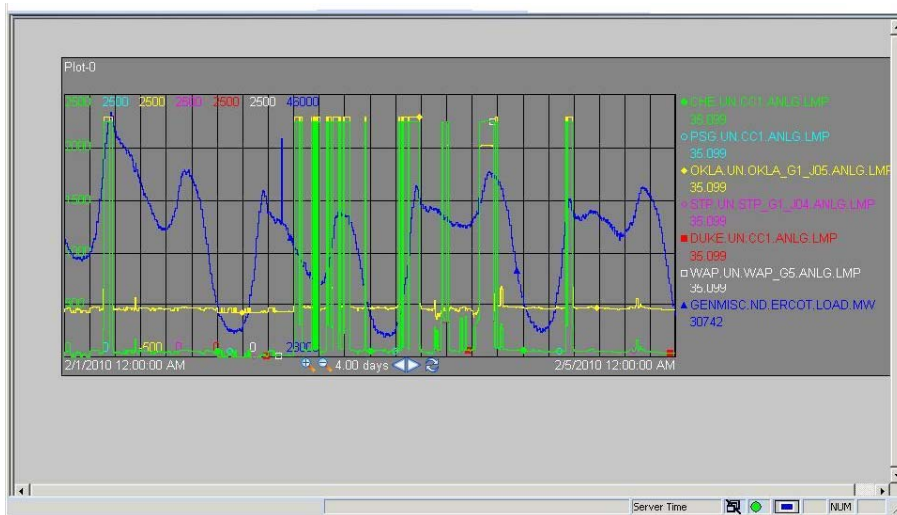
Nodal Systems Blueprint - Market Trials - Phase 3 - Feb. 1st



Real Time Market / LFC Update

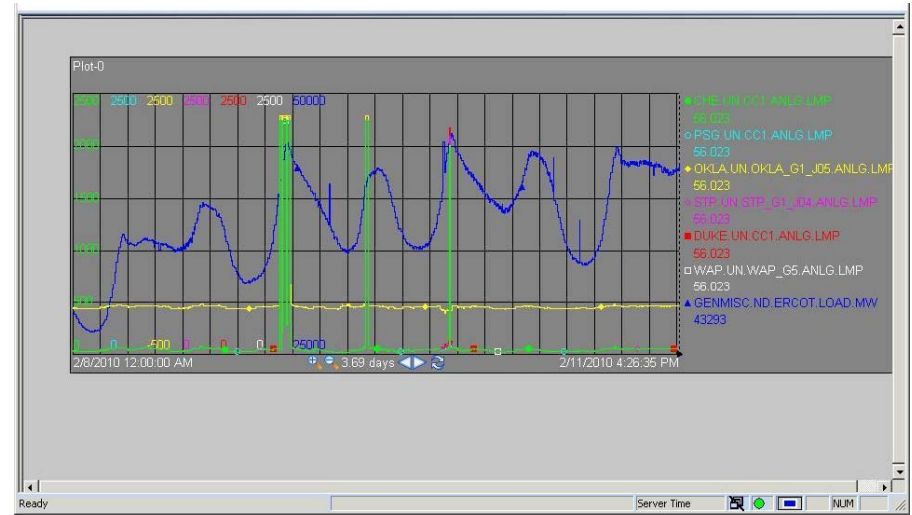
SCED Week 1

The lack of offer curves was apparent with the amount of time the LMP's were at \$2250 during Week 1.



SCED Week 2

During Week 2 offer curve submissions clearly demonstrate better LMP's and hitting \$2250 mainly during morning peaks.



Nodal Program Risks & Issues: Definitions

Definitions for Category, Probability and Severity of Risks & Issues:

- **Category**

- Scope: Will require a scope change
- Schedule: Will require a schedule change
- Budget: Will require a budget change

- **Probability**

- High: Expected to require Change Request over the next 1-3 months
- Medium: Expected to require Change Request over the next 4-10 months
- Low: Not expected to require a Change Request

- **Severity**

- High: Milestone impact, or budget impact >\$500,000
- Medium: Milestone impact - but expected to be mitigated, or budget impact between \$0 - \$500,000
- Low: No milestone impact, or no budget impact

Defect Definitions

| Severity | Definition |
|--|--|
| Severity 1: Data loss/critical error | Defects that render unavailable the critical functions of the system under test. These include errors such as system errors, application failures, loss of data, incorrect calculations, inability to transfer data, failure to access database, and inability to display information to the user. |
| Severity 2: Loss of functionality w/o workaround | Defects that render unavailable partial functionality of the system under test with no workaround available. These include errors such as incorrect information displayed to the user, information not updating correctly, extracts failing, and missing export files. |
| Severity 3: Loss of functionality with workaround | Defects that render unavailable partial functionality of the system under test with a workaround available. These include errors such as incorrect message displayed, optional information missing or not displayed correctly, not receiving e-mail notifications, and incorrect defaults. |
| Severity 4: Partial loss of a feature set | Defects that affect a feature that is not executed on a frequent basis and there is not a significant impact on the system. These include errors such as help information, filtering, and consistent naming. |
| Severity 5: Cosmetic/documentation error | Defects that are cosmetic and need to be resolved, but are not a factor in the functionality or stability of the system. These include errors such as field alignment, report formatting, drop down list order, fonts, column order and documentation that is inconsistent with the system(s) as tested. |

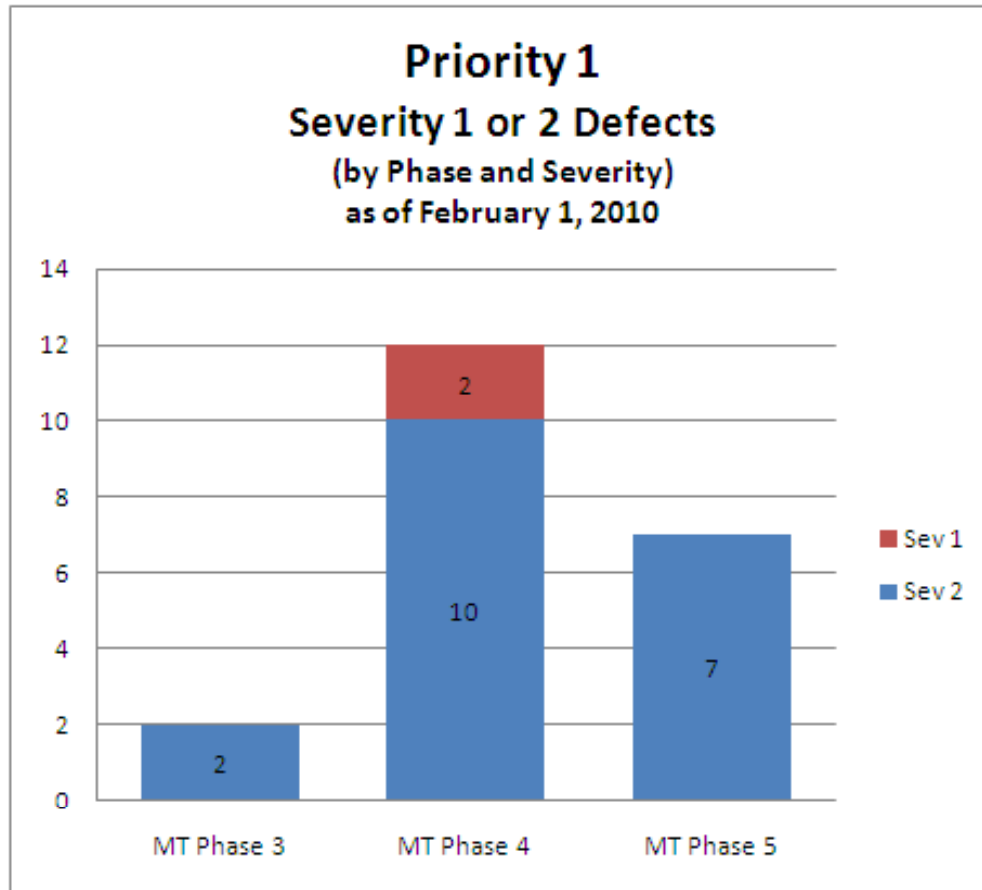
| | Prescription in Quality Center |
|-------------------|---|
| Priority 1 | Must fix ASAP |
| Priority 2 | Must fix prior to Go-Live |
| Priority 3 | Not critical to fix before Go-Live |
| Priority 4 | Minor system/user impact |
| Priority 5 | No system/user impact |

Critical Defect Definitions

- **Critical defects are required to be fixed before go-live**
- **Critical defects are identified as:**
 - Severity 1
 - Severity 2
 - Severity 3 priority 1 & priority 2
 - Severity 4 priority 1 & priority 2
 - Severity 5 priority 1 & priority 2
- **A continual defect review process will ensure that, after review and approval by the business, non-critical defects are deferred in Quality Center with adequate documentation (e.g., test script results, impacted functions, recreation steps, workarounds)**

NOTE: All documented workarounds for deferred defects will be provided to the ERCOT readiness team for review and inclusion in desk procedures, when applicable

Nodal Defect Reporting



Severity 1 – High Level Description

Phase 3:

None

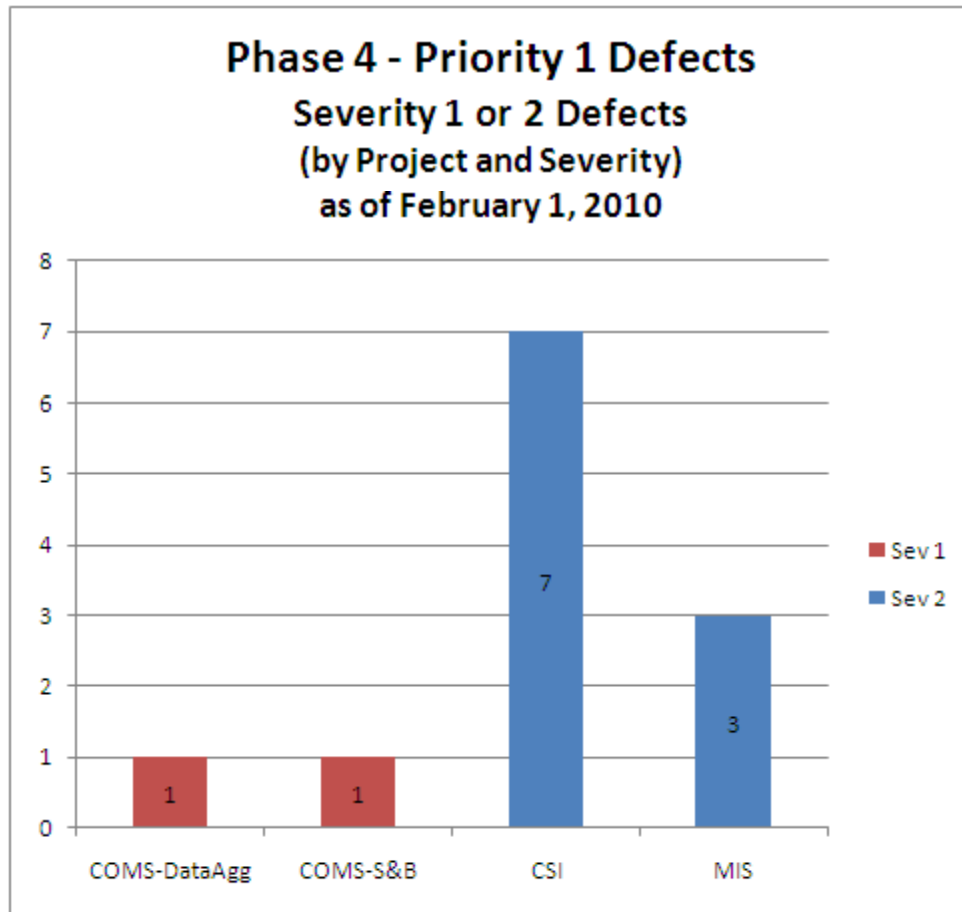
Phase 4:

Configuration Error (1) – New
Data Error (1) – Test

Phase 5:

None

Nodal Defect Reporting



Severity 1 – High Level Description

Market Trials Phase 3:

None

Market Trials Phase 4 by Project:

COMS-Data Agg:

Data Error (1) – Test

COMS – S&B:

Configuration Error (1) – New

Program Issue: Market Interaction Operating Level Agreements

◇ Potential Milestone Impact: Phase 3 RTM, Phase 4 DAM/RUC, Phase 5 Full, Go-Live

| ISSUE: Market Interaction OLA | | Need to determine service 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. | | |
|---|--------|---|-----------------------------|--|
| Life Cycle State | | | | |
| Plan | Manage | | | |
| Mitigation Plans | | Who | Target Date | Current Status |
| 1. ORT to define OLA with business and the market for each phase. | | ORT, Market Trials | March | Continuing to define Market OLAs for all subsequent Market Trial Phases as part of the ORT project plan: Phase 2.1: Complete Phase 3: Complete Phase 4: OLA Definitions in Progress |
| 2. PMO working with ORT to ensure consistent communications and work planning is in place to deliver the appropriate OLA and market throttling recommendations for each market release. | | PMO, ORT, Market Trials | January, April, May, August | Continuous communication will be delivered to the internal and external stakeholders in support of each market delivery. |

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 | Nodal Program Release Scope and Schedule defined to ensure delivery. Program Status Report and Dashboard in place to track progress. |

Program Issue: Network Model Load Frequency

◇ Potential Milestone Impact: Overall Program

| ISSUE: Network Model Load Frequency | | <i>Model updates for Nodal will require more attention and coordination by both MPs and ERCOT to ensure alignment. ERCOT has determined that a bi-monthly Nodal database load represents the most manageable solution for updating the real-time environment when Nodal begins in December 2010.</i> | | |
|--|--------|--|-----------------|--|
| Life Cycle State | | | | |
| Plan | Manage | | | |
| Mitigation Plans | | Who | Target Date | Current Status |
| 1. Define and document Initial Model Load Process. | | ERT | Complete | Initial Process Documented, to be updated based on feedback from Testing and Operations teams. |
| 2. Validate and improve the Model Load Process over the next several months based on a Zonal Bi-Weekly load timeframe. | | INT, INF | January - March | Initial loads completed, targeting mid January Model load to align with Zonal schedule. |

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 | Complete | Complete |
| 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. | | | | V. Gates | Ongoing | Complete |
| 3. Keep the oversight groups apprised of progress. | | | | M. Cleary | Ongoing | Complete |

External Audit Status Summary

| Audit | Audit Points Identified | Audit Points in Execution | Date to Complete Last Point |
|---------------------------------|--------------------------------|----------------------------------|------------------------------------|
| Utilicast Report 8 | 6 | 1 in progress; 5 complete | 2011 |
| Utilicast Report 10 (Cleary) | 17 | 5 in progress; 12 complete | 6/1/10** |
| Opportune Report 1 | 10 | 10 complete | 1/31/10 |

**** Updated end date to reflect date to complete remaining audit points**

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 | David Forfia | 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 – 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 | 06/01/10 |

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. | Met with NATF on 1/29/10 to finalize reporting and traceability effort. Transitioned open items to ERT to track to completion. | V. Gates | V. Gates | 02/28/10 |

Audit Points to Address from Opportune Report 1

| ID | Short Description | Recommendation | Action Plan Status | Resp. Dir. | Resp. Mgr. | Target Date |
|-----------|---|---|---|--------------|-------------------------|-------------|
| OPT 01-01 | Central Storage Location for Documentation | Maintain timesheet support, project status reports and other key documents in a central location with access restrictions and backup capabilities. | Vendor Manager (VM) and Project Manager (PM) are working with the Financial Management Office (FMO) to create a centralized repository on the FMO SharePoint site with restricted access. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-02 | Reconciliation of Invoices to Timesheets and AP Disbursements | Maintain a documented reconciliation of hours submitted on timesheets, hours invoiced and hours paid. Maintain the reconciliation real-time as invoices and timesheets are received | All ABB invoices are being generated off the ERCOT issued weekly timesheet. The PM verifies the invoice against the tracking spreadsheet and sends confirmation with the invoiced hours. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-02 | Consolidation of All Timesheet Entries for Analysis | Maintain weekly spreadsheets for all hours, time reports and status reports. Conduct weekly and periodic checks to review all ABB issued timesheets | All hours, time reports and status are being maintained weekly by the VM and PM. A central repository will be created to store weekly reports and review all ABB issued timesheets. | J. Iacobucci | J. Fruit J. Robinson | Complete |

Audit Points to Address from Opportune Report 1

| ID | Short Description | Recommendation | Action Plan Status | Resp. Dir. | Resp. Mgr. | Target Date |
|-----------|----------------------------|---|--|--------------|-------------------------|-------------|
| OPT 01-04 | Standard Work Descriptions | When possible, require standard work descriptions for certain phases, deliverables and tasks and obtain buy-in agreement from ABB. | All entries are controlled for standard work descriptions by the PM during the time collection process and are being maintained in an Access database. The contract has been updated to reflect the new categories. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-05 | Invoicing Controls | Install a control that will provide greater assurance that the invoiced hours are accurately supported by the original time entered by employees and approved by their supervisors. | <p>The following steps will be or have been implemented:</p> <ol style="list-style-type: none"> 1. The ABB staff working for ERCOT will submit (via emails) their ERCOT-billable time, with date, hours and description, to the PM each Friday. 2. The PM transfers the data to a reporting spreadsheet. 3. The PM provides the reporting spreadsheet to the VM on the following Thursday. 4. The VM compares the spreadsheet to the timekeeping system entries. 5. The VM and PM reconcile any discrepancies. 6. ABB Invoices ERCOT for the final agreed upon hours. 7. The VM validates the invoice back to the original reporting spreadsheets for the PM. | J. Iacobucci | J. Fruit J. Robinson | Complete |

Audit Points to Address from Opportune Report 1

| ID | Short Description | Recommendation | Action Plan Status | Resp. Dir. | Resp. Mgr. | Target Date |
|-----------|---|--|---|--------------|-------------------------|-------------|
| OPT 01-06 | Duplicate Billing of Hours | A search of duplicate payments found a total of 43 hours duplicated. Recommendation to request a refund from ABB for the over billing amount. | ABB agrees to this finding and the PM will request a correction. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-07 | Blank Work Descriptions | Prior to November 2007, there were a number of instances where work descriptions were not provided in the invoice support documentation (timesheets/timecards). The PM needs to remain alert to proper short text descriptions being provided. | All entries are being controlled for standard work descriptions by the PM during the time collection process. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-08 | Recap of Invoices and Cumulative Hours by SOW | Maintain the recap of invoices and cumulative hours by SOW on a current basis. | A spreadsheet will be maintained that tracks all monthly invoices as well as the date the actual hard copy invoice is received by the PM and the date of payment. | J. Iacobucci | J. Fruit J. Robinson | Complete |

Audit Points to Address from Opportune Report 1

| ID | Short Description | Recommendation | Action Plan Status | Resp. Dir. | Resp. Mgr. | Target Date |
|-----------|--|--|---|--------------|-------------------------|-------------|
| OPT 01-09 | Receipt of Payment Milestones Unclear | The parties need to emphasize the need for clearly describing payment milestones on invoices, both in preparation of invoices by ABB, and in reviewing/approving invoices by ERCOT. | All invoices will have a cover sheet attached that the VM will document what deliverable was achieved with the invoice, along with the e-mail confirmation from the PM that the invoice matches the hours contained within the hour tracking spreadsheet being maintained. | J. Iacobucci | J. Fruit J. Robinson | Complete |
| OPT 01-10 | Signed Contractor Ethics Agreement Forms Were Incomplete | Furnish ABB with copies of the Contractor Ethics Agreement and related policies. Require all ABB employees and contractors to execute the Contractor Ethics Agreement signature page indicating that they have read and understood all of the relevant policies. | Copies of the Contract Ethics Agreement will be made available for distribution to all ABB resources who are working on the ERCOT project/program. The PM will then provided a targeted timeframe in which the agreement should be reviewed and agreed. Other ERCOT policies will be observed based on the need of the ABB employee/contractor. | J. Iacobucci | J. Fruit J. Robinson | Complete |