Texas Nodal Market Implementation: Program Update
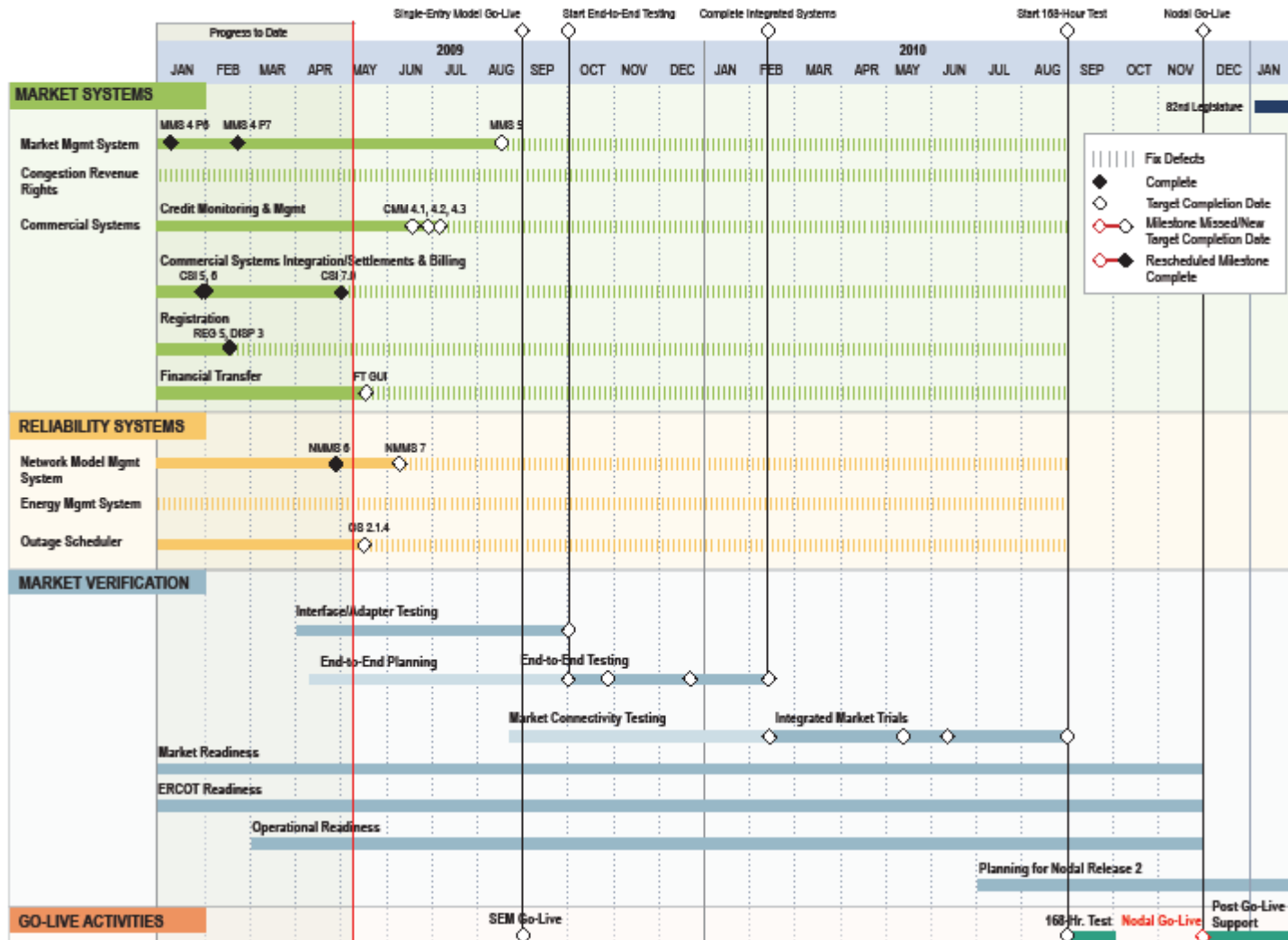
Mike Cleary

Sr. VP and Chief Technology Officer

Agenda

- **Timeline**

- **Milestones**

- **Risks/Issues**

- **People**

- **Program Initiatives**

- **Financials**

Timeline

Milestones Performance

Tracking Milestones Planned — April 2009

Proj	Name	%	Baseline	Forecast	Actual	Variance
COMS CMM	CMM 4.1 Development Complete	100%	03/31/09	04/03/09	04/03/09	3 days
EIP	EIP.WS1.18C2.Delivery Completed (OS2.1.3 Compatibilit	100%	04/09/09	04/09/09	04/09/09	0 days
MIS	MIS Build 12 Start	100%	04/14/09	04/10/09	04/10/09	-2 days
ENV	Deliver Completed iTest Environment to I-A Testing	100%	04/10/09	04/10/09	04/10/09	0 days
MMS	MMS5: Pre-FAT Release to FAT Testing	100%	04/15/09	04/15/09	04/15/09	0 days
MMS	MMS5 FAT Start	100%	04/15/09	04/15/09	04/15/09	0 days
OS	2.1.4.0 OS FAT Start: Delivered by ABB	100%	04/17/09	04/24/09	04/24/09	5 days
EDW	Deliver State Estimator Statistics Extract EMS Phase 3	0%	04/17/09	05/14/09	Delayed	19 days
COMS CSI	Deliver CSI 7.0 - Migration to iTest	100%	04/23/09	04/23/09	04/23/09	0 days
EMS	EMS Release 6.5.x SPR Patch 2 FAT Complete	0%	04/24/09	05/04/09	Delayed	6 days
NMMS	Deliver NMMS 6 to iTest	100%	04/07/09	04/30/09	04/30/09	17 days
CRR	Final Approval - CRR NPRR 140	100%	04/29/09	04/29/09	04/29/09	0 days
MIS	MIS Build 11 Complete	0%	05/01/09	05/29/09	Delayed	19 days

Tracking Milestones Planned — May 2009

Proj	Name	%	Baseline	Forecast	Actual	Variance
MMS	ETAG to MMS iTest Test Execution Completed	0%	05/01/09	08/31/09	NA	84 days
NMMS	NMMS Interface Testing Complete	0%	05/04/09	05/14/09	NA	8 days
E2E	Framework Established & Communicated to Team	0%	05/06/09	05/06/09	NA	0 days
MMS	MMS UI Project End	0%	05/12/09	06/01/09	NA	13 days
COMS CMM	REG > CMM iTest Test Execution Completed	0%	05/12/09	05/21/09	NA	7 days
EIP	EWS 1.18 Enhancements Completed	0%	05/14/09	05/14/09	NA	0 days
COMS CMM	CMM - 4.2 Development Complete	0%	05/15/09	06/01/09	NA	10 days
COMS REG	CMM-REG: (Creditworthy Status Update) Interface Test Compl	0%	05/15/09	05/15/09	NA	0 days
NMMS	Issue Modeling Guidelines Draft to Participants	0%	05/19/09	05/19/09	NA	0 days
EDS	Publish Draft Modeling Guidelines Document for MP Review	0%	05/19/09	05/19/09	NA	0 days
NMMS	Deliver NMMS 7 INT	0%	05/21/09	06/16/09	NA	17 days
EMS	EMS Release 6.6.x SPR Patch 3 FAT Complete	0%	05/22/09	06/02/09	NA	6 days
OS	Deliver OS Feature Pack 2 to iTest	0%	05/26/09	05/26/09	NA	0 days
MMS	MMS5 Patch 1 Delivered by ABB	0%	05/29/09	05/29/09	NA	0 days

- 10 of 13 tracking milestones for April completed against the Re-baselined schedule.

- 14 tracking milestones scheduled for May.

Risks & Issues to Achieving Nodal's Major Milestones

◆ **Single-Entry Model Go-Live (8-31-09)**

– Issue: NMMS defect-resolution threatens SEM Go-Live (CLOSED)

◆ **Complete Integrated Systems (11-18-09)**

– Risk: Resource conflict for Advanced Metering and Nodal Program

– Issue: Handling CMM delays for Nodal Program

– Issue: Zonal resource constraints for Nodal Program

– Issue: Resource conflict could delay development of NMMS processes and procedures

◆ **Integrated Market Trials (2-10)**

– Risk: Reconciling Protocols, Systems and Market Expectations

◆ **Nodal Go-Live (12-1-10)**

– Risk: Data Center capacity concerns

Nodal Program Risk:
Resource Conflict for Advanced Metering and Nodal Program

◇ **Potential Milestone Impact: Complete Integrated Systems**

Risk: Advanced Metering Resources	Advanced Metering is a high priority project for 2009. There are potential conflicts in 2009 over resources and testing environments needed at the same time by the nodal program and Advanced Metering project.		
Risk Life Cycle State			
Define · **Plan** · Manage · Watch			

Mitigation Plans	Who	Target Date	Current Status
1. Establish a testing approach to use different environments for the Lodestar testing. Limit shared testing to just the single shared ISM environment during testing in Q4 2009.	H. Parrish S. Jirasek	7/24/09	5/1/09 Test strategy is complete for Advanced Metering. It is being incorporated into the nodal test plan for end-to-end testing as part of the end-to-end planning.
2. Arrange resource assignments for Lodestar and EDW to ensure coverage by development teams and business team resources to allow for parallel nodal program work and Advanced Metering work, to support the Advanced Metering mandate of January 2010 and nodal go-live date of December 2010.	H. Parrish S. Jirasek	7/24/09	5/1/09 Resource planning is underway, with current expectations that coverage will be sufficient. Plans are being incorporated into overall resource management plans for nodal and zonal needs.
3. Monitor resource assignments and availability.	H. Parrish S. Jirasek	November, 2009	

Nodal 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	Plan complete; contract to be finished 5/15	5/8/09 SOW drafted, to complete 5/15/09 5/1/09 Vendor contract extension in work, while next contract is under development by EquaTerra. Ongoing discussions with Triple Point on timing and quality of deliverables.
2. Identify ERCOT business resources to ensure the plan can be executed.	H. Parrish	target date under discussion	5/1/09 Position posted internally; 1 backfill starting 6/1/09; 1 pending 4/17/09 2 additional Credit FTE resources are participating in testing. Business has1 backfill resource under evaluation. Goal - to have at least 2 backfill by 04/30/2009 .
3. Identify vendor resources to ensure the plan can be executed.	H. Parrish	As needed	5/7/09 ERCOT on site at Triple Point, providing PM oversight and 2 testers for pre-FAT .
4. Receive software and perform FAT in increments, to keep overall program on schedule.	H. Parrish	7/08/09	4/2/09 Deliveries of software scheduled from 2/6/09 through 5/15/09, with testing incrementally to 7/8/09

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 are resulting in resource constraints for the Nodal 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 Nodal personnel resources when delivering additional Zonal enhancements.	D. Forfia D. Troxtell	Ongoing	5/1/09 – Meetings underway this week and next, to review EACs with Mike Cleary and Janet Ply 4/24/09 – Meetings of PM with Program Office and with Resource Managers set for week of 4/27/09, to address personnel allocations	
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	4/17/09 – complete an "on request" analysis of resource conflicts, updated to 5/1/09	5/1/09 – Prototype completed and shared for two departments , consolidating resource hours for O&M, Nodal, and Zonal needs, to enable discussion of resource conflicts with resource managers 4/24/09 – ERCOT PMO is working on a prototype to track all Nodal and Zonal resources, to enable better forecasting and analysis of capacity; expect to have solution available by 5/29/09	

Nodal Program Issue:
Developing NMMS Business Processes and Procedures

◇ **Potential Milestone Impact: Complete Integrated Systems**

Risk: Inadequate staffing to develop NMMS-related business processes	Availability of facilitators, writers, and key SME's for the development of NMMS processes and procedures is limited. This resource conflict will result in delays of NMMS processes and procedures unless a workaround is found.		
Issue Life Cycle State			
Define / **Plan** / Manage / Watch			
Mitigation Plans	Who	Target Date	Current Status
1. Work with individuals in other departments who can facilitate collecting the information for documenting the processes and procedures.	D. Moldenhour	8/1/09	5/8/09 2 procedures finalized, 3 drafted and are in review, with other key departments identified for SME input 4/17/09 Other organizations have provided technical writers and training personnel to facilitate the process definition.
2. Review process and procedure work for consistency with others.	M. Nixon, C. Hansen	ongoing	4/17/09 Chuck Hansen reviews materials developed for level of detail and specific content.
3. Identify personnel in other groups who can help with technical aspects of procedures being developed.	D. Moldenhour, P. Miller	ongoing	4/17/09 In process

Nodal 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.	Nodal Project Managers	7/1/09	4/13/09 Program is planning the assessment activities.
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.	J. Ply	8/1/09	5/1/09 – One candidate will start on 5/18/09; another still in discussions 4/13/09 Two candidates have been approached regarding their involvement; additional candidates from other areas of the market are yet to be identified.
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 Program 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 ongoing	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	3/30/09 Work underway to expand current TCC1 data center ERCOT project PR_80047 TCC1 equipment to be purchased May 2009. ERCOT project PR_80001 South DC will run parallel Oct 2010 – Feb 2011 to test and avoid disruption to Nodal
3. Validate and monitor Nodal data capacity assumptions for Go Live	D. Forfia	Plan: May 2009 Analysis: to complete 7/15/09	5/11/09 Plan under review by D. Forfia

People
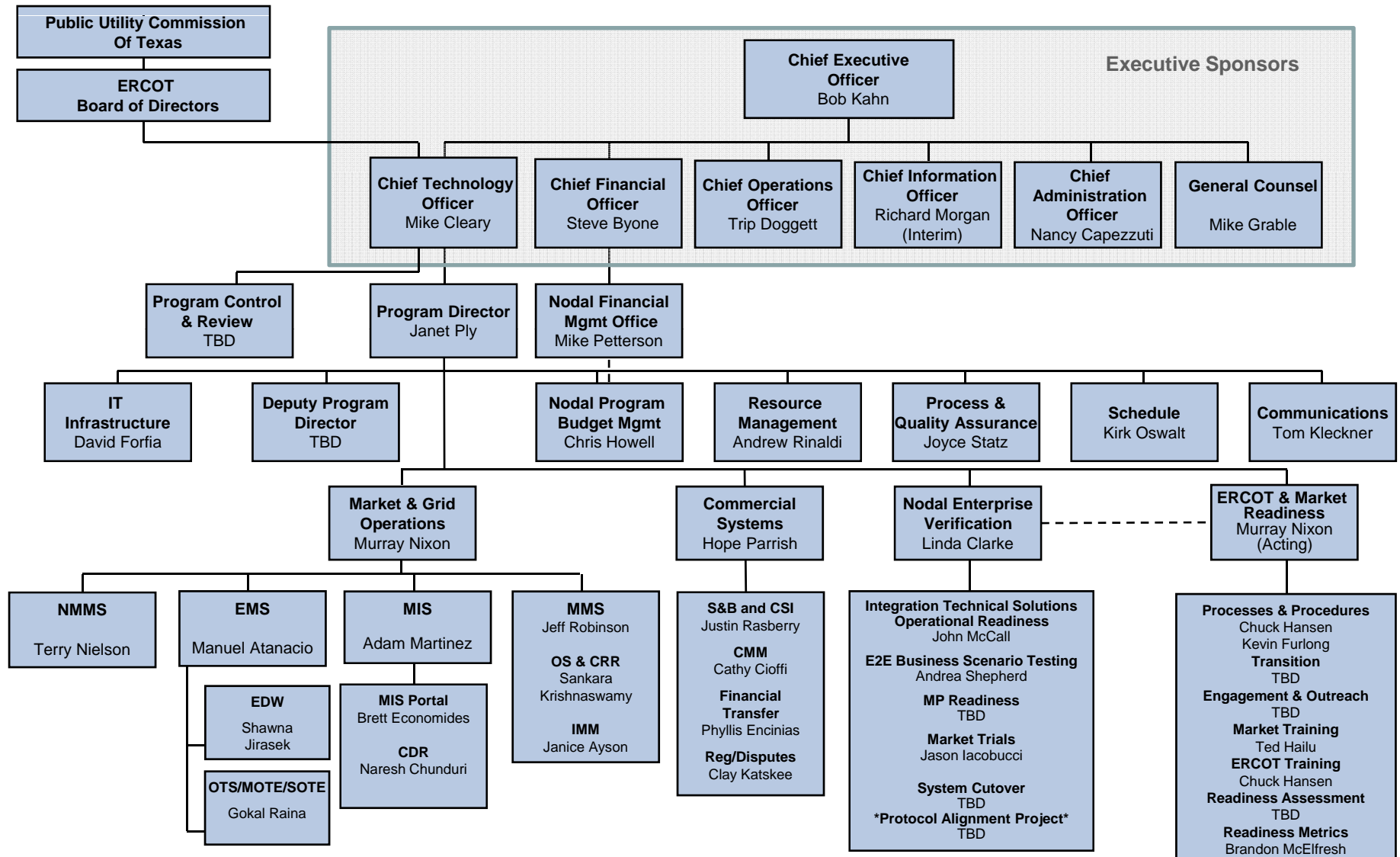
Full Time Equivalent of Hours Worked
(Forecast vs. Actuals)
as of 4-17-09

20 May 2009
ERCOT Public

ERCOT Board of Directors
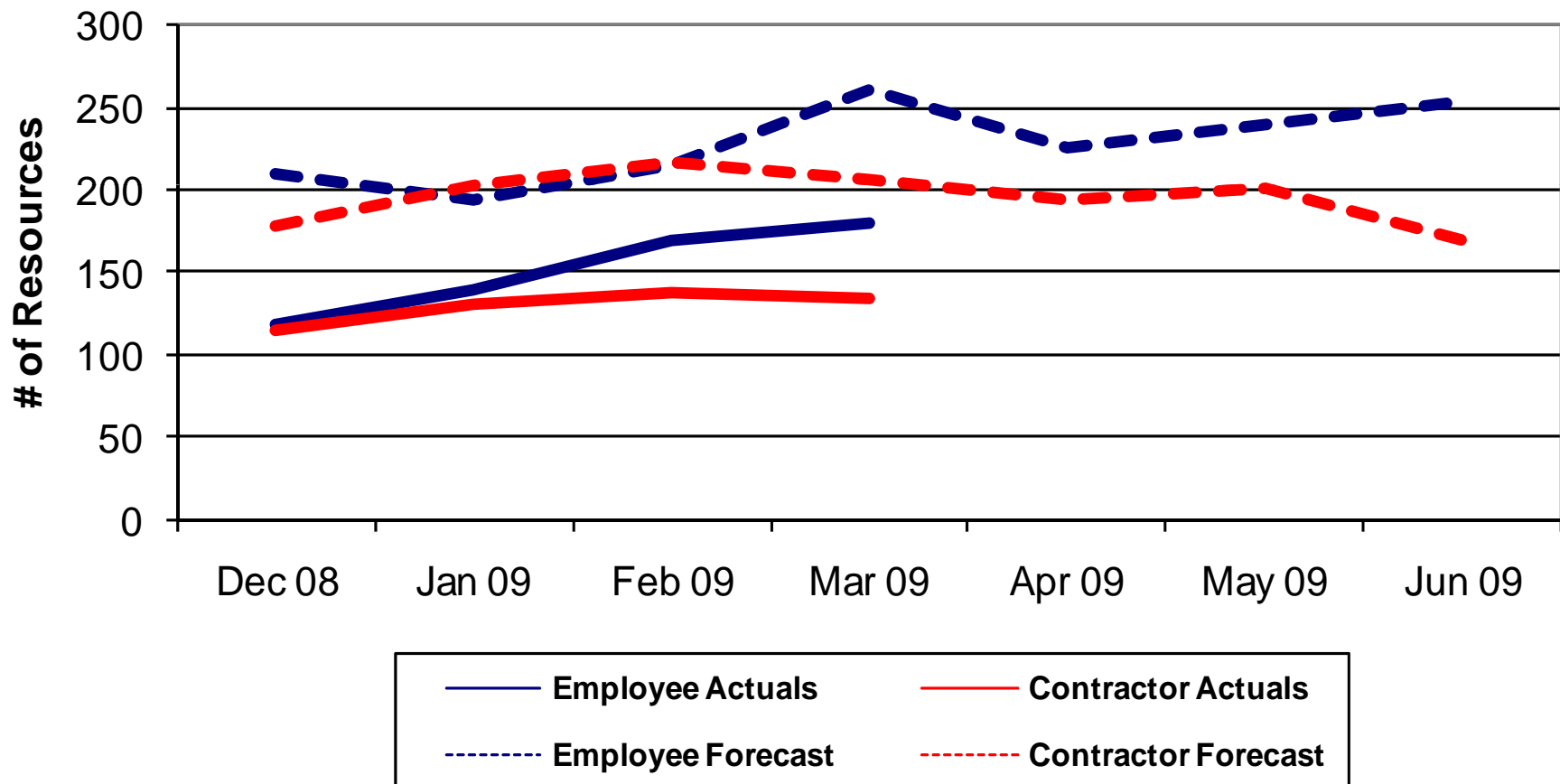
People: Staffing and Recruitment

- **Project Manager, ERCOT & Market Participant Readiness**
  - Interviews complete; offer to be extended

- **Project Manager, ERT Organization Development & Design**
  - Interviews currently in progress

- **Project Manager, Vendor Relations**
  - Interviews complete; offer accepted

- **Project Manager, EMS**
  - Interviews complete; offer accepted

- **Deputy Program Director**
  - Interviews currently in progress

- **Lead Integration Coordinator**
  - Interviews complete; offer accepted

- **Budget Analyst/Jr. Project Manager (4)**
  - Candidates reviewed; interviews in process

Program Initiatives

- **Budget Management**
  - Re-forecasts with each project team began May 4; expect to complete May 15
  - Nodal leadership, FMO, PMs and project controllers all involved
  - Back in July with June actuals and updated EACs

- **Nodal Contract Renegotiations**
  - 5 major vendor contracts:
    - Renegotiations underway with 2 vendors; ERCOT working on contract update
    - Developing detailed document on how we move forward
    - Top priority is conducting stronger negotiations
    - Continuing to work down list of vendors
    - Escalated second vendor
    - Still on track to complete renegotiations by end of June

- **Resource Management**
  - Initiated monthly resource manager meetings to ensure nodal, zonal managers have proper resources for their work
  - Nodal staffing reviewed on weekly basis
  - Transition & Assessment Initiative:
    - Joint process between nodal, zonal resource managers to identify, deploy and transition resources
    - Ensures long-term resource succession plans, knowledge transferred to ERCOT resources

- **Market Participant Readiness**
  - Planning integration initiative as identified by Utilicast
  - Re-planning interface and adapter testing
  - Staffing up and planning integration effort

Monthly Financial Review

Mike Cleary

Nodal Program
Approved Budget to Actual Comparison
Month of April 2009

Line	Cost Summary	Budget	Actual	Variance	Cumulative Variance (Pending Contingency Mgmt Disposition)
1	Internal Labor Costs	$2.3	$1.9	$0.4	$3.0
2	Backfill Labor Costs	0.1	-0.1	0.2	-0.1
3	External Resource Costs	7.3	6.2	1.1	7.1
4	Software & Software Maintenance	0.3	0.8	-0.5	-0.5
5	Hardware & Hardware Maintenance	0.2	0.6	-0.4	1.6
6	**Sub-total Direct Project Costs**	**$10.2**	**$9.4**	**$0.8**	**$11.1**
7	**Contingency Costs**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
8	Allocations & Other	$0.7	$0.5	$0.2	$1.8
9	Finance Charges	1.2	0.8	0.4	0.7
10	**Sub-total Indirect Project Costs**	**$1.9**	**$1.3**	**$0.6**	**$2.5**
11					
12	**Total**	**$12.1**	**$10.7**	**$1.4**	**$13.6**

Amounts in millions

Nodal Program
Approved Budget to Actual Comparison
Life-to-Date through April 2009

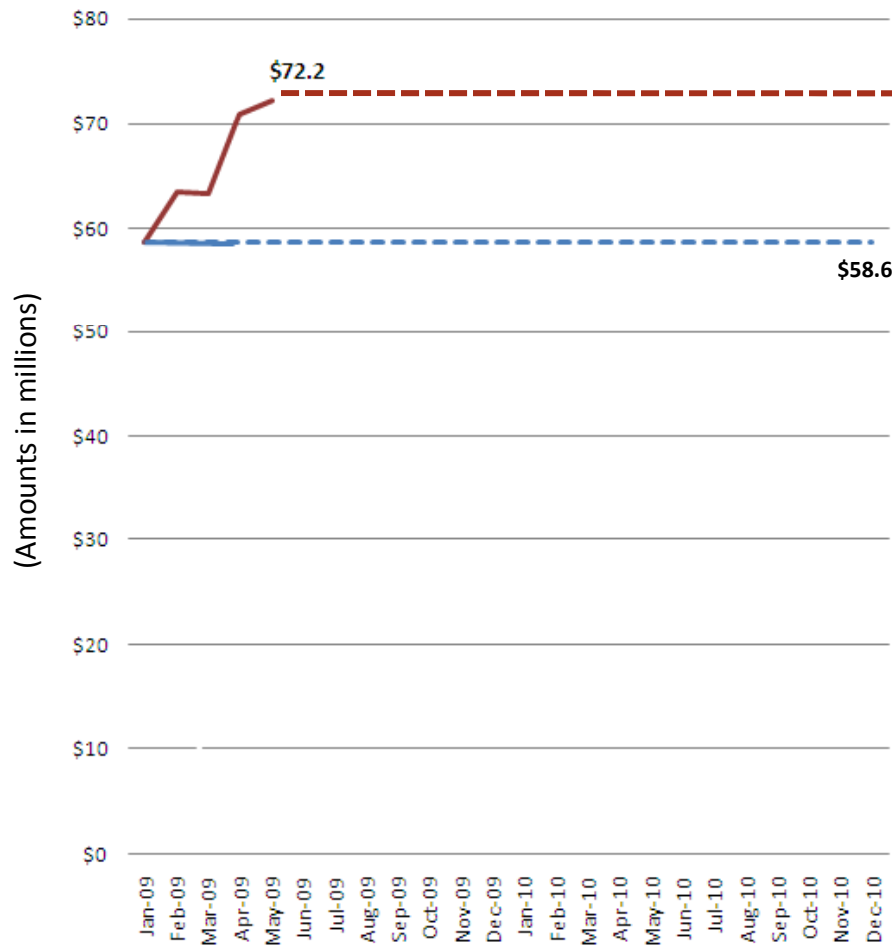| Line	Cost Summary	Budget	Actual	Cumulative Variance * (Pending Contingency Mgmt Disposition)	Budget Remaining
1	Internal Labor Costs	$42.5	$39.5	$3.0	$43.7
2	Backfill Labor Costs	4.2	4.3	-0.1	4.3
3	External Resource Costs	227.0	219.9	7.1	65.5
4	Software & Software Maintenance	24.0	24.5	-0.5	13.1
5	Hardware & Hardware Maintenance	48.6	47.0	1.6	5.7
6	**Sub-total Direct Project Costs**	**$346.3**	**$335.2**	**$11.1**	**$132.3**
7	**Contingency Costs**	**$0.0**	**$0.0**	**$0.0**	**$58.6**
8	Allocations & Other	$20.8	$19.0	$1.8	$8.1
9	Finance Charges	17.5	16.8	0.7	60.2
10	**Sub-total Indirect Project Costs**	**$38.3**	**$35.8**	**$2.5**	**$68.3**
11					
12	**Total**	**$384.6**	**$371.0**	**$13.6**	**$259.2**

Amounts in millions

$643.8

* Note: Effective with February 17, 2009 approved budget, LTD budgeted spend set to actual spend through December 31, 2008; accordingly, cumulative variance "reset" as of January 1, 2009.
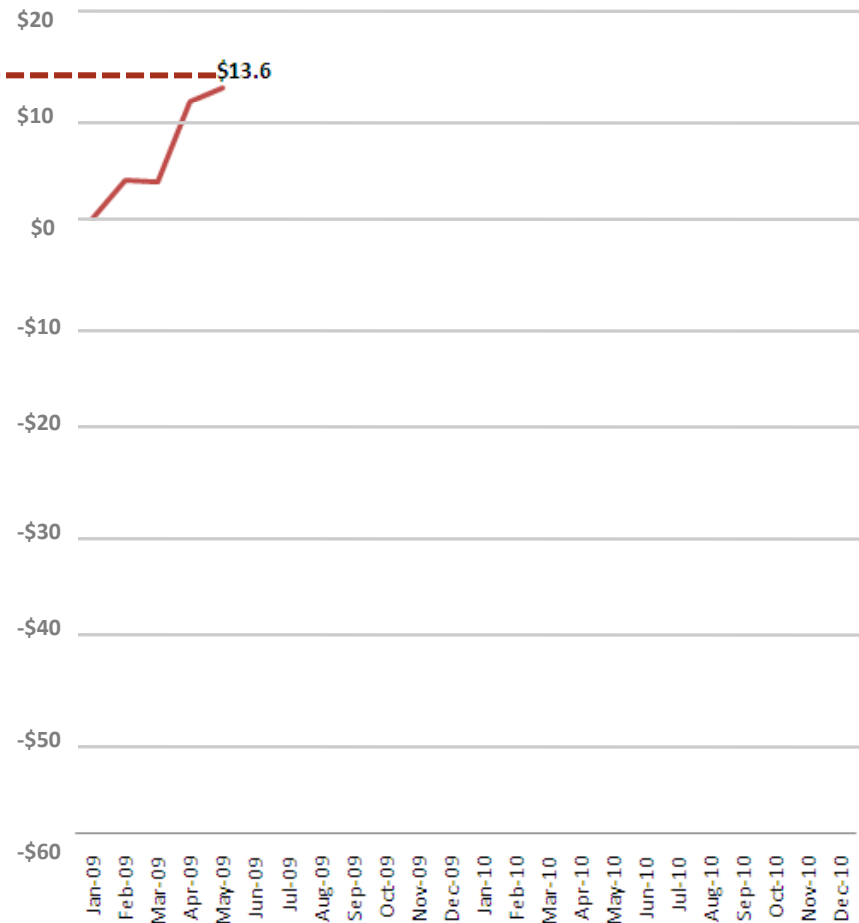
Current View

Detail of Cumulative Variance
(Pending Contingency Mmgt Disposition)

Monthly Budget to Actual Variance
(Amounts in millions)

Note: Post-2010 amounts are primarily additional debt service costs

Questions ?