

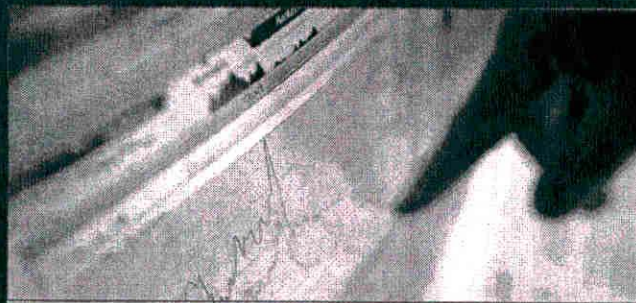


FINAL REPORT

PROJECT NO. 34019 | RFP NUMBER: 473-07-00217

WORKFORCE ANALYSIS

OF THE ELECTRIC RELIABILITY COUNCIL OF TEXAS



PREPARED FOR: PUBLIC UTILITY COMMISSION OF TEXAS



APRIL 2008

R·W·BECK

Mind Powered: Insight with Impact.

April 15, 2008



Hand Delivery

Ms. Paula Mueller
Deputy Executive Director
Public Utility Commission of Texas
William B. Travis Building
1701 N. Congress Avenue
Austin, TX 78701

Subject: Organizational Assessment and Workforce Analysis of the Electric Reliability Council of Texas – Final Report (Project No. 34019)

Dear Ms. Mueller:

R. W. Beck is pleased to enclose four copies of the Organizational Assessment and Workforce Analysis of the Electric Reliability Council of Texas (ERCOT) final report. An electronic copy of this final report can be provided upon request.

During late summer of 2007, R. W. Beck was selected by the Public Utilities Commission of Texas (PUCT) to perform an assessment of ERCOT's organization with regard to efficiency and effectiveness and to include an analysis of ERCOT's workforce.

In September 2007, R. W. Beck delivered the Organizational Assessment and Workforce Analysis of ERCOT draft report, which included preliminary findings and recommendations regarding the organizational structure and staffing levels at ERCOT. At this time, the PUCT informed R. W. Beck that ERCOT was conducting a detailed staffing analysis. In February 2008, ERCOT shared with R. W. Beck a draft of the "Deep Dive" staffing assessment which includes a detailed position analysis within its organization. Using this internal staffing assessment, R. W. Beck conducted a supplemental workforce analysis of ERCOT.

Enclosed is the final report of the Organizational Assessment and Workforce Analysis of ERCOT and the Supplemental Staffing Report. R.W. Beck makes a number of significant recommendations addressing the organizational structure used by ERCOT in 2007. These recommendations have remained as published in the draft report.

R. W. Beck has reviewed the Deep Dive analysis draft report from ERCOT and based on our review we have created a Supplemental Staffing Report. The Supplemental Staffing Report focuses on thirteen functional areas where discrepancies of three or more FTEs were identified between ERCOT's projected 2008 Staffing Summary reviewed by us in 2007 and ERCOT's 2008 Deep Dive analysis.

April 15, 2008
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R. W. Beck's supplemental staffing review concludes that in 2008, ERCOT will need approximately 682 FTEs. This figure does not include the administrative, Nodal Market project positions, or Enterprise Architecture personnel, which equals an additional 29 FTEs, as presented in the 2008 Staffing Summary.

R.W. Beck's supplemental review shows that ERCOT will need approximately 690 FTEs in 2009. This figure does not include the administrative positions or Enterprise Architecture personnel, which equals an additional 35 FTEs, as presented in the 2008 Staffing Summary. Staffing summary tables are presented as Exhibit S-A to the Supplemental Staffing Report.

Thank you for the opportunity to assist the Commission on this important assignment. If you should have any questions concerning the content of this report, please contact me at 512-651-6415 or dpullin@rwbeck.com.

Best regards,

R. W. BECK, INC.

A handwritten signature in black ink, appearing to read "D. Pullin".

Daryl Pullin, Project Manager
National Director, Management Advisory Services

DP/cl

Final Report

Public Utility Commission of Texas

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This report has been prepared for the use of the client for the specific purposes identified in the report. The conclusions, observations and recommendations contained herein attributed to R. W. Beck, Inc. (R. W. Beck) constitute the opinions of R. W. Beck. To the extent that statements, information and opinions provided by the client or others have been used in the preparation of this report, R. W. Beck has relied upon the same to be accurate, and for which no assurances are intended and no representations or warranties are made. R. W. Beck makes no certification and gives no assurances except as explicitly set forth in this report.

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Introduction

R. W. Beck, Inc. (R. W. Beck) was engaged by the Public Utility Commission of Texas (PUCT) to perform a Workforce Analysis and Organization Assessment of the Electric Reliability Council of Texas (ERCOT). The purpose of this initiative is to provide the PUCT with an objective assessment of ERCOT's current organizational structure, workforce make-up and key performance measures. This report presents the findings and recommendations independently developed by R. W. Beck pursuant to the written scope of work proposed to the PUCT and approved following initial project meetings with the PUCT. Recommendations address both short-term and long-term improvements, with the objective of leveraging ERCOT's current successful practices with existing and future staff resources to ensure continued reliable, effective and efficient operations of the majority of the electricity market in Texas.

Scope of Assignment

Our Work Plan is described in some detail within the following section. This work Plan was designed around the requirements stated in the PUCT's Request for Proposals.¹ R. W. Beck met with the PUCT staff following award of the consulting contract to validate the proposed work plan. It was confirmed during that meeting that the consulting services should include the following activities:

- A. Review and evaluate current organizational design and effectiveness;
- B. Review and evaluate current performance goals and achievement, including the appropriateness of the chosen performance measures;
- C. Review and evaluate current workforce staffing, including staffing levels, staffing mix, and retention and recruitment for non-executive positions;
- D. Review and evaluate ERCOT's use of contract workers, including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, the extent to which contracting is planned, and the cost of contract workers compared to employees;
- E. Evaluate whether the current organizational structure and workforce, including the mix of employees and contract workers, are appropriate for ERCOT's mission and responsibilities; and
- F. Recommend specific changes for areas that are not effective, including a timeline by which changes should be accomplished.

¹ Public Utility Commission of Texas Project No. 34019, Request for Proposals for a Workforce Analysis of the Electric Reliability Council of Texas.

Approach and Methodology

R. W. Beck's Work Plan included four major tasks:

1. Organize and Start-Up the Project
2. Develop Current Situation Analysis
3. Evaluate Key Performance Indicators
4. Produce Draft Report and Final Report

Following initial meetings with the PUCT staff, R. W. Beck completed the following activities to gather information needed to develop findings, conclusions and recommendations discussed in this report:

- Individual interview with the Chairman of the ERCOT Board of Directors.
- Individual interviews with ERCOT's executive management team which included the out-going Chief Executive Officer, the new Chief Executive Officer, the Chief Financial Officer, the Vice President of Market Operations, the Vice President of Information Systems, the Vice President of Systems Operations, the Vice President of Systems Planning, and the Vice President of Human Resources.
- Individual interview with the Internal Auditor.
- Individual interviews with twenty-one (21) directors and managers within ERCOT's various departments.
- Benchmarking analysis wherein ERCOT was compared to other independent system operators with regard to size and implied work load, organizational structure, staffing and key performance measures.
- Review of documentation provided by ERCOT staff, which included, but was not limited to:
 - ERCOT Articles of Incorporation and Bylaws
 - ERCOT Vision and Mission statements
 - ERCOT Corporate Policies and Standards
 - Organization charts
 - Nodal market project plan
 - Staffing summaries with costs and numbers
 - Budget process and procedures
 - 2008 ERCOT fiscal year budget (circa August 21, 2007)
 - Operating policies, protocols, procedures and reports
 - Financial reports
 - Key performance indicators
 - Human resource policies, practices and documents

- Internal operations compliance reports
- Risk management reports
- Internal audit reports
- Annual reports
- Selected PUCT Substantive Rules

A key component of understanding the impacts on ERCOT's effectiveness was profiling ERCOT's operating environment. The operating environment was examined from many perspectives including corporate oversight and governance, public visibility, labor market forces, market oversight and governance including historical evolution of the electricity market in Texas, and past decisions made by ERCOT management. Where practical, the R. W. Beck team identified and evaluated the work load drivers affecting the current ERCOT structure and staffing. The team also compared its observations with R. W. Beck internal databases and what R. W. Beck has observed at well-run utility organizations and other types of organizations across the nation.

Assumptions Used

- A. A full time equivalent employee (FTE Employee) is assumed to be an ERCOT employee with a PCN number and working nominally forty (40) hours per week.
- B. All FTE Employees complete a time sheet.
- C. Timesheet reporting by ERCOT employees during the period January 1, 2007 and June 30, 2007 is generally representative of the current staff workload.
- D. Full time equivalent contractor (FTE Contractor) is assumed to be a contractor or vendor employee working nominally forty (40) hours per week.
- E. The scope of the Nodal Market initiative has been approved through the PUCT's open hearings process.² Workload has been previously examined and through the state hearing process, a surcharge for the market and a budget for the project were approved. R. W. Beck's scope excludes providing opinions concerning Nodal Project workload drivers and the associated staffing numbers or budget. However, in that ERCOT's documentation on contract personnel costs are co-mingled between the Nodal Project personnel and existing Zonal staff, our team's findings on contractor costs, and staffing mix between employees and contractors, may to some extent cross these boundaries.
- F. ERCOT management will conduct a position-by-position task analysis for each authorized job position below the executive ranks. This study will be

² In September 2003, as part of Project 26376, the Public Utility Commission of Texas (PUCT) ordered ERCOT to develop a nodal wholesale market design. The Texas Nodal Program exists to facilitate the transition from a Zonal to a Nodal Market and affects many business processes and systems including: a day-ahead market (DAM), reliability unit commitment (RUC), real-time or security constrained economic dispatch (SCED), and congestion revenue rights (CRRs). The redesigned grid will consist of more than 4000 nodes and will replace the current congestion management zones (CMZs). The Final Order in Docket No. 32686 approving a requested Nodal Project implementation budget of \$248.9 million was approved by the Commission in May of 2007.

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completed during the Fall of 2007. The R. W. Beck team will review the results of ERCOT's job position analysis after it is completed and will produce a Supplemental Staffing Report.

Organization Assessment

Section 2 of this report addresses our findings with regard to the entire ERCOT organization, from the Board of Directors through management, to the operating units and sub-groups, all in the context of ERCOT's business environment. We start by reviewing ERCOT's vision and mission, its strategic goals and objectives, and other stated responsibilities. Our evaluation of ERCOT's organization effectiveness includes extensive investigation of the way in which work activities are planned, initiated and carried out by the processes in place. This includes identifying the work "drivers" for the organization. Recommendations are made where deemed appropriate to increase organizational effectiveness.

R. W. Beck's assessment of the ERCOT organization resulted in several findings and recommendations.

Strategic Direction

Finding: *ERCOT operates largely in a reactive mode with respect to Market Participants, the PUCT, and other outside entities. Even though the construct of the electricity market in Texas requires the Independent System Operator to react to the needs of market participants, ERCOT's effectiveness and efficiency as an organization would benefit from a strategic planning program that provides proactive guidance.*

Recommendation 2-1: Critically review and carefully define ERCOT's leadership role with respect to the Texas electric markets and its level of responsibility to the needs and interests of its many stakeholders. Institutionalize this role and responsibilities in the framework of a Strategic Business Plan developed through a sound planning process and, as appropriate, develop associated Board policy.

Board Committees

Finding: *Given the size of the ERCOT Board of Directors, a clearly defined committee structure would help the Board accomplish its governance functions more effectively.*

Recommendation 2-2: Develop a Board policy on committees and, as necessary, modify the ERCOT Bylaws. Review the role of the TAC and consider re-chartering the TAC to clarify and separate its governance advisement role from pseudo-management functions that it also performs. Charter an Executive Committee and separate the Audit Committee of the Board from the Finance Committee. See Figure 2-2 for the recommended committee structure.

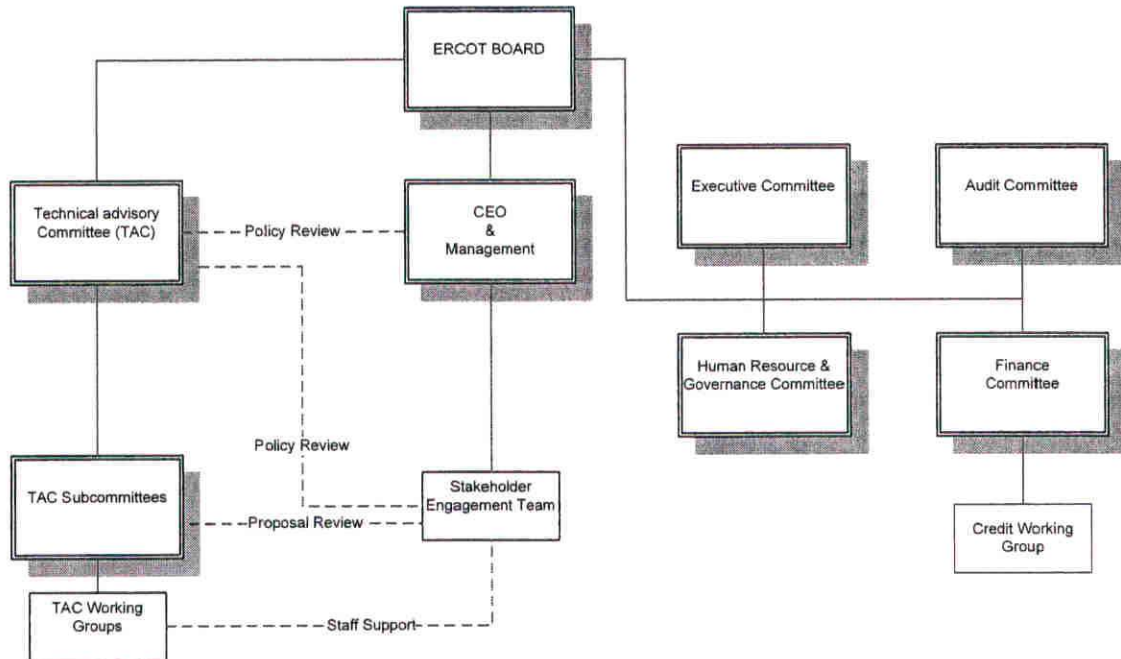


Figure 2-2: Future Governance Schematic

Interface Between Market Participants and the ERCOT Staff

Finding: *R. W. Beck's evaluation indicates that ERCOT's current organizational effectiveness is adversely affected by the informal interface between market participants and ERCOT staff.*

Recommendation 2-3: Establish a formal process that structures the interface between ERCOT staff below the executive team level and outside parties. As an example, the following guidelines should be used to immediately modify as necessary Protocols Section 21; Process for Protocol Revision and the interface process(s) between Working Groups and TAC and ERCOT staff on PRRs.

Interface Procedure with Working Groups and TAC on PRRs:

1. ERCOT staff will not participate in working group meetings to draft PRRs
2. Once a PRR is drafted by the working group, the draft PRR will be submitted for comment to the appropriate ERCOT executive/director for assignment to staff resources
3. Staff will fully document comments on a PRR Comment Sheet
4. PRR Comment Sheet will be returned to the working group for consideration; appropriate discussions or teleconferences will be conducted
5. When the working group forwards the PRR to TAC, all PRR Comment Sheets must be attached

EXECUTIVE SUMMARY

6. Should TAC required additional input from ERCOT staff, the draft PRR will be re-submitted with specific information requested to the appropriate ERCOT executive/director for assignment to staff
7. Staff will fully document responses to TAC requests on the PRR Comment Sheet
8. PRR Comment Sheets will be returned to TAC for consideration; appropriate discussions or teleconferences will be conducted
9. When TAC forwards the PRR to the ERCOT Board for approval, all PRR Comment Sheets must be attached

The Chief Executive's Span of Control

Recommendation 2-4: Reduce the span of control for the CEO as shown in Figure 2-4. The recommended structure includes five direct reports to the CEO. These executives are:

- Chief Operating Officer responsible for operating standards, grid operations, grid planning and commercial operations
- Chief Financial Officer responsible for all financial analysis and reporting, accounting, risk management, budgeting and treasury operations
- Chief Information Officer responsible for all automated systems supporting commercial operations and grid operations, automated corporate systems and data depositories
- Chief Administrative Officer responsible for human resource activities, strategic planning, project management policies and guidelines, procurement activities, facilities and security
- General Counsel responsible for legal affairs, communications, and government relations

Note: The Internal Auditor's direct reporting relationship is with the Finance and Audit Committee of the Board of Directors. The Internal Auditor reports administratively to the CEO

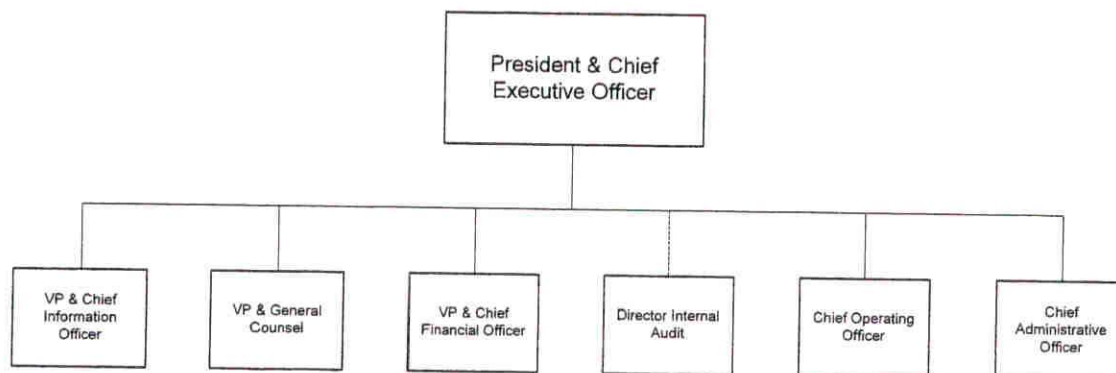


Figure 2-4: Recommended Executive Level Organization

Contract Administration and Procurement

Finding: *ERCOT's Contract Administration and Procurement Department currently operates under the Chief Financial Officer (CFO). This department's functions do not fit well within the CFO's division.*

Recommendation 2-5: Move the Contract Administration and Procurement Department from the CFO's division to the CAO's division.

Finding: *The Program Management Department currently operates under the Chief Financial Officer. This department's functions do not fit well within the CFO's division.*

Recommendation 2-6: Move the Program Management Department from the CFO's division to the Chief Operating Officer's division.

Operations Standards Department and Regulatory Support and Reporting Department

Finding: *Apparent redundant objectives and roles exist for the Operations Standards Department, currently under the VP Systems Operations, and the Regulatory Support and Reporting Department, currently under the VP Systems Planning.*

Recommendation 2-7: Consolidate NERC-related compliance activities in one department under the recommended Chief Operating Officer's division. See recommendation 2-4.

Enterprise-wide Risk Management Department

Finding: *An undesirable degree of ambiguity appears to exist regarding the risk management-related roles of Internal Audit, the internal controls management program (ICMP), the enterprise risk manager position (ERM), and other risk management-related functions. This will tend to cause inefficiencies and hinder risk management effectiveness.*

Recommendation 2-8: ERCOT should undertake an effort to clarify, re-organize, and streamline its risk management-related functions including ICMP so that goals, roles and responsibilities, and procedures are more clearly defined along with the appropriate organizational alignment. ERCOT appears to have strong risk management talent, especially within the CFO's division, and existing staff appears well-qualified to complete this reorganization.

Finding: *Enterprise Risk Management will need more visibility within the organization.*

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Recommendation 2-9: To increase visibility and facilitate better access to the executive team, the ERM manager should report directly to the CFO.

Performance Measurement

R. W. Beck was tasked by the PUCT to review and evaluate ERCOT's current performance goals and their achievement, including the appropriateness of the chosen measures. Section 3 of this report addresses findings and recommendations with regard to the assessment of ERCOT's overarching performance measures for the organization. In conducting its review, the R. W. Beck team discussed the performance measurement process and specific goals with ERCOT executives and directors. The team also reviewed published reports addressing Key Performance Indicators (KPIs), and associated goals and results, for 2006 and 2007.

ERCOT currently lists nine KPIs (hereinafter referred to as Key Performance Areas (KPA's)) on its monthly performance reports. Forty-five performance measurements (hereinafter referred to as Key Performance Indicators (KPIs)) are used to evaluate and report on these KPAs.³ The nine performance areas are shown in Table 3-1.

Table 3-1
Current Key Performance Areas

	KPAs
1	Compliance with ERCOT Protocols, and NERC Standards and Requirements
2	Retail Transaction Processing in Accordance with Protocols
3	Wholesale Transaction Processing in Accordance with Protocols
4	Completion of Nodal Milestones in Accordance with Schedule and Budget
5	Conduct Base Operations Within Approved Budget
6	Conduct Legal, Legislative and Regulatory Activities in Accordance With Rules
7	Hire and Retain the Staff Necessary to Meet the Business Demands
8	Receipt of Favorable Financial and SAS 70 Audits
9	Sustain and strive to improve market participant satisfaction within legislative, regulatory and corporate governance parameters (<i>Not included in 2007 goals - survey is performed bi-annually</i>)

R. W. Beck's assessment of performance measurement resulted in one finding and recommendation.

Adequacy of ERCOT's Key Performance Measurement Process

Finding: *ERCOT's performance measurement process provides reasonable coverage for all significant operational and administrative functional areas, and has been*

³Exhibit A: ERCOT Key Performance Indicator Matrix, YTD August 1, 2007

consistently applied during 2006 and 2007. However, the use of the terms "Goals" and "Measures" in these reports is not consistent and can be confusing. Because of this situation, and because there is no stated definition of how the responsibility weighting is used to designate goal achievement, the dashboard front page of the report may be misinterpreted by the reader.

Recommendation 3-1: Restructure the format of monthly performance reports to reduce confusion. Clearly state goals and KPIs under each Key Performance Area. Insure the majority of all KPIs are conventionally stated to measure outcomes (or inputs in the case of leading indicators) and not activity-level. State the method used to determine performance described on the dashboard page.

Workforce Analysis

Section 4 of this report provides R. W. Beck's findings, background discussions and recommendations with regard to the following activities included in our Scope of Work:

- Review and evaluation of the current workforce staffing, including staffing levels, staffing mix, and retention and recruitment for non-executive positions;
- Review and evaluation of ERCOT's use of contract workers, including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, extent to which contracting is planned, and cost compared to employees;
- Evaluation of whether the current organizational structure and workforce, including the mix of employees and contract workers, are appropriate for ERCOT's mission and responsibilities.

The recommendations regarding the adequacy of current and proposed future staffing levels across all divisions and departments are based on R. W. Beck's understanding of each business unit's responsibilities and functional activities, a review of ERCOT's organization charts, a review of the Staffing Summary included in the 2008 Budget prepared by ERCOT (2008 Staffing Summary), interviews with Directors, Vice Presidents and other key managers, and an assessment of the time worked by employees from January 1 to June 30, 2007 as tracked by the Lawson accounting system.

A more detailed job position task and skills analysis should be conducted where the workload for each position is examined and quantified to determine staffing needs for each business unit. R. W. Beck understands that ERCOT has recently embarked upon such a detailed job position analysis within the organization. R. W. Beck will refine its preliminary findings and recommendations as needed following our review of the results from ERCOT's organization-wide job position analysis.

As Table 4.1 illustrates, the present staffing levels for the majority of the divisions within the ERCOT organization appear to be adequate. Table 4.1 does not include the Executive department and other administration areas such as CIO Administration and CMO administration as these include the executive positions for the different

EXECUTIVE SUMMARY

divisions. Minor inconsistencies in ERCOT reported data and R. W. Beck recommendations in Section 2 as to department relocations within the organization did not result in material differences in staffing levels from those proposed by ERCOT for 2007 and 2008. R. W. Beck did present a recommended increase in Nodal Market transition period staffing. The level of need will require an analysis by ERCOT. See recommendation 4-21 in Section 4.14 of this report.

Table 4.1
Staffing Levels by Division and Department

Section	Division	Department	Average Overtime %	Staffing Level	ERCOT's Budget 2008 / 2009 FTEs*	Comment
4.4	Finance	Treasury & Credit Administration	4	Appears to be adequate	9 / 9	Overtime levels below 10% are considered within adequate ranges
		Contract Administration & Procurement	7	Appears to be adequate	12 / 10	Overtime levels below 10% are considered within adequate ranges
		Controller	4 - 5	Appears to be adequate	22 / 21	Overtime levels below 10% are considered within adequate ranges
		Program Management Office	2 - 15	Appears to be inappropriate for some areas	17 / 12	Average overtime levels for the DPO department are 15%
4.5	General Counsel	N/A	5	Appears to be adequate	20 / 20	Overtime levels below 10% are considered within adequate ranges
4.6	Human Resources & Organizational Development	N/A	9	Appears to be adequate	11 / 11	Overtime levels below 10% are considered within adequate ranges
4.7	Internal Audit	N/A	6	Appears to be adequate	7 / 7	Overtime levels below 10% are considered within adequate ranges
4.8	Facilities & Site Development	N/A	15	Appears to be inadequate	14 / 13	Average overtime levels is over 10%
4.9	Information & Physical Security	N/A	2 - 9	Appears to be adequate	15 / 13	Overtime levels below 10% are considered within adequate ranges
4.10	Information Technology	Application Services	1 - 8	Appears to be adequate	89 / 84	Overtime levels below 10% are considered within adequate ranges
		Infrastructure & Operation Services	5 - 23	Appears to be inadequate in several areas	104 / 93	Average overtime levels for certain departments are over 10%

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		Technical Services Administration	5	Appears to be adequate	4 / 4	Overtime levels below 10% are considered within adequate ranges
		Enterprise Architecture	Insufficient data available	N/A	8 / 7	N/A
4.11	Market Operations	Commercial Operations	2 - 8	Appears to be inappropriate for several areas	71 / 68	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
		Market Services	2 - 5	Appears to be inadequate	87 / 77	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
4.12	Systems Planning		4 - 5	Appears to be adequate	37 / 37	Overtime levels below 10% are considered within adequate ranges
4.13	System Operations	Operating Standards	7	Appears to be adequate	4 / 4	Overtime levels below 10% are considered within adequate ranges
		Grid Operations	4	Appears to be inadequate	106 / 96	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
		Wholesale Market Operations	2 - 3	Appears to be adequate	38 / 34	Overtime levels below 10% are considered within adequate ranges

*Source: ERCOT Fiscal Year 2008 Budget, Staffing Summary.

R. W. Beck's analysis of ERCOT's internal workforce produced a number of findings and recommendations.

Executive Division

Finding: *The size of the Executive Team is not the most effective and efficient to lead ERCOT.*

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Recommendation 4-1: Reduce the number of members of the Executive team to five as described in Section 2 of this report.

Treasury and Credit Administration

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Treasury and Credit Administration department appear to be adequate.*

Recommendation 4-2: It is our opinion that seven to eight employees are needed to support the work activities and responsibilities of the Treasury and Credit Administration department. Due to the workload increase driven by the implementation and operation of the Nodal Market, two additional employees are required, which is consistent with the additions presented in the 2008 Staffing Summary.

As recommended in Section 2 of this report, the Enterprise Risk Management area is removed from under the Treasury and Credit Administration department. The staffing level recommended for the new Enterprise Risk Management department is two to three FTEs.

Contract Administration and Procurement

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Contract Administration and Procurement department appear to be adequate.*

Recommendation 4-3: Based on the current workload for the Contract Administration and Procurement department, it is R. W. Beck's opinion that 12 employees are needed to support the activities and responsibilities of this department.

Controller

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Controller department appear to be adequate.*

Recommendation 4-4: Based on the current workload for the Controller department, it is our opinion that 18 to 19 employees are needed to support the activities and responsibilities of the accounting and Budget (A&B) area.

As described in Section 2 of this report, the Internal Control Management Program (ICMP) and Risk Management departments share common responsibilities and could be consolidated under the Enterprise Risk Management function. The staffing level for an integrated ICMP and Risk Management function would be a staff of five FTEs (three from ICMP and two from Enterprise Risk Management).

Program Management Office

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Program Management Office department appear to be inappropriate for some areas.*

Recommendation 4-5: DPO: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that two to three FTEs would be adequate to support the work activities for this area.

Planning, Quality and Reporting: Based on the current workload for this area, it is our opinion that five to six FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that five FTEs would be appropriate to support the work activities for this area.

Program Administration: Based on the current workload for this group, it is our opinion that three to four FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of four FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to remain stable; four FTEs appear to be the appropriate number to support the work activities for this area.

As explained in Section 2 of this report, R. W. Beck recommends that the PMO department be moved under the CAO.

General Counsel Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the General Counsel division appear to be adequate.*

Recommendation 4-6: Based on the current workload for the General Counsel division, it is our opinion that 20 FTEs are needed to support the activities and responsibilities of this division. It is apparent this division is not heavily impacted by the Nodal Market Program development and implementation; therefore, we recommend that the staffing level for this division remain at 20 FTEs for 2008 and 2009.

Human Resources and Organizational Development Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the HR&OD division appear to be adequate.*

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Recommendation 4-7: Increase and maintain the staffing level of the HR&OD division from ten to 11 or 12 FTEs. The Lawson system indicates that employees in this division are already working the number of hours equivalent to 11 FTEs.

As described in Section 2 of this draft report, the HR&OD division should be located within the departments led by the CAO.

Internal Audit Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Internal Audit division appear to be adequate.*

Recommendation 4-8: Maintain the number of FTEs for the Internal Audit division at seven as presented in the 2008 Staffing Summary.

Facilities and Site Development Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Facilities and Site Development division appear to be inadequate.*

Recommendation 4-9: Based on the current workload for the Facilities and Site Development division, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

Information & Physical Security Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Information and Physical Security division appear to be adequate.*

Recommendation 4-10: Based on the current workload for the Information Systems Security department, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

Based on the current workload for the Physical Security department, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

Information Technology Division

Application Services

Finding: *The overall staffing levels presented in the 2008 Staffing Budget Summary for the Application Services department appear to be adequate.*

Recommendation 4-11:

EMMS Development: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 17/16 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Enterprise Integration: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Enterprise Information Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 19/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Commercial Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 14 to 15 FTEs, (to reach 15 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Corporate Applications: Based on the current workload for this area, it is our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

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Database Administration: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Infrastructure & Operations Services

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Infrastructure and Operations Services department appear to be inadequate in several areas.*

Recommendation 4-12:

System Engineering and Administration: Based on the current workload for this area, it is our opinion that 27 to 28 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already is excessive when compared to the actual number of FTEs and overtime is at an average of 23 percent. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. This area will need approximately five additional FTEs in order to fulfill its responsibilities.

Storage Resource Management: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven or eight FTEs, (to reach eight/seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Network: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to decrease, however, at this point it is not possible to validate whether a decrease of two or three FTEs, (to reach 10 FTEs in 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Console Operations: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The Console Operations area should be able to fulfill its responsibilities with the 13 FTEs it has budgeted for 2008 and 2009.

Commercial Operations: Based on the current workload for this area, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this area today. The Commercial Operations area should be able to fulfill its responsibilities with the 17 FTEs it has budgeted for 2009.

Release Management: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven FTEs (to reach seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

EMMS Production Support: Based on the current workload for this area, it is our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

DPO: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already requires three to four FTEs which matches the number of budgeted positions for 2008 and 2009.

Technical Services Administration

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Technical Services Administration department appear to be adequate.*

Recommendation 4-13: Maintain the staffing level at four FTEs for the Technical Services Administration department.

Enterprise Architecture

Finding: *Insufficient information is available to assess the staffing levels for the Enterprise Architecture department.*

Recommendation 4-14: At this point insufficient information is available to determine whether the Enterprise Architecture department will be appropriately staffed in 2008 and 2009.

Market Operations Division

Commercial Operations

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Commercial Operations department appear to be inappropriate for several areas.*

Recommendation 4-15:

Settlement Metering: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this

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area today. During the time period assessed (January 1 to June 30, 2007), two employees joined this area. Once the Nodal Market is operational, the workload for this area is expected to remain stable, however at this point it is not possible to validate whether an addition of two to three FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.

Energy Analysis and Aggregation: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to remain stable; however at this point it is not possible to validate whether a reduction of one or two FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.

Settlement and Billing Operations: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine to ten additional FTEs, (to reach 23/22 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Retail Customer Choice: Based on the current workload for this area, it is our opinion that 21 to 22 FTEs are needed to support the activities and responsibilities of this area today. As described in the Future Situation section, this area will not be impacted by the transition to the Nodal Market. This area has also improved certain business processes. R. W. Beck recommends reducing the staffing levels for this area as presented in the 2008 Staffing Summary to 21 FTEs in 2008 and 18 FTEs in 2009.

Data Integrity and Administration: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether two to three additional FTEs, (to reach seven/eight FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Market Services

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Market Services department appear to be inadequate.*

Recommendation 4-16:

Market Rules: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to match the nine FTEs in 2008 and

2009 as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

DPO: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 16 FTEs in 2008), is the appropriate staffing number for this area to fulfill its responsibilities in 2008. In addition, at this point it is not possible to validate whether a reduction of five FTEs in 2009, once the Nodal Market is operational (as presented in the 2008 Staffing Summary) is the appropriate staffing level for this area to fulfill its responsibilities.

Retail Client Service and Retail Market Analysis: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. R. W. Beck recommends maintaining the staffing levels of this area at 13 FTEs in 2008 and 2009.

Market Operations Testing: Based on the current workload for this area, it is our opinion that 20 to 21 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 30/27 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.

Wholesale Client Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 19 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

System Planning Division

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the System Planning division appear to be adequate.*

Recommendation 4-17:

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Transmission and Regional Planning: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities related to an increase in wind interconnections as described in the Future Situation, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 26 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

Congestion Management: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities related to the CRR transaction process, however at this point it is not possible to validate whether three to four additional FTEs, (to reach seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Regulatory Reporting: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R. W. Beck recommends maintaining the staffing level of this department at four FTEs as presented in the 2008 Staffing Summary.

As described in Section 2 of this report, R. W. Beck recommends consolidating the Regulatory Reporting with the Operations Standards department under the COO, since they share responsibilities for compliance between ERCOT operating guidelines and standards promulgated by the NERC.

System Operations Division

Operating Standards

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Operating Standards department appear to be adequate.*

Recommendation 4-18: Based on the current workload for Operating Standards, it is our opinion that two to three FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with NERC requirements, however at this point it is not possible to validate whether one to two additional FTEs, (to reach four FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

In Section 2 of this report, R. W. Beck recommends consolidating the Operating Standards department and the Regulatory Reporting since they share common responsibilities to conduct work activities in support of NERC requirements, under the COO.

Grid Operations

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Grid Operations department appear to be inadequate.*

Recommendation 4-19:

DPO and Operator Training: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R.W. Beck recommends maintaining the staffing level for this area at 13 FTEs as presented in the 2008 Staffing Summary.

Operations Support, Planning and Engineering, Advanced Network Applications, and Outage Coordination: Based on the current workload for this area, it is our opinion that 43 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one additional FTEs in 2008 and a reduction of 4 FTEs in 2009, (to reach 43/39 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Systems Operations: Based on the current workload for this area, it is our opinion that 54 to 55 FTEs are needed to support the activities and responsibilities of this area today. Greater efficiencies are expected to be gained once the system implemented to support the Nodal Market is operational, which would allow a reduction in work force. However, at this point it is not possible to validate whether 50 FTES, as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.

Wholesale Market Operations

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Wholesale Market Operations department appear to be adequate.*

Recommendation 4-20:

Market Operations: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 24 FTEs in 2008 and 21 FTEs in 2009 (as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

Network Modeling: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with the development and implementation of the time-based network model, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 14/13 FTEs in 2008 and 2009 as presented in the

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2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Staffing Levels during the Transition to the Nodal Market

Finding: *Staffing levels and the number of contract workers may be insufficient during the transition period from Zonal to Nodal Market operations in 2009.*

Recommendation 4-21: ERCOT should analyze the contract resources necessary for this critical period following initiation of the Nodal Market. A budget adjustment should be made to account for the appropriate number of and skills for additional staff above the number currently included in the 2008 budget.

Human Resources Strategy

Finding: *ERCOT needs an integrated Human Resource (HR) strategy to attract and retain key employees.*

Recommendation 4-22: ERCOT should expand its current Human Resource Strategy to include a career development program, succession plans and a rewards and recognition program. ERCOT should also consider providing additional employee benefits such as flextime and telecommuting in an effort to attract and retain qualified personnel.

Workforce Analysis – Contract Labor

Section 5 of the report provides R. W. Beck's findings, background and recommendations with regard to the use of contract labor including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, the extent to which contracting is planned, and the cost of contract workers compared to employees.

ERCOT differentiates the contract labor it retains according to the following classifications:

- **Staff Support:** Refers to contract labor with certain technical or administrative skills employed over a period of time to support business operations, such as accounting or information technology activities.
- **Defined Deliverables:** Refers to contract labor hired to perform specific activities and deliver defined work products, such as Web portals for Nodal protocols, testimony and benchmarking studies.
- **Outsourced:** Refers to the delegation of non-core internal functions to an external entity, such as security and janitorial services.

R. W. Beck's contract labor analysis considered the service provided, time period and costs associated with ERCOT's contract labor. R. W. Beck identified comparable

positions within the ERCOT organization in order to compare contract labor versus employee costs. The employee costs were obtained by determining the salary level for the position reviewed and increasing the hourly amount by 32 percent to reflect the payroll and benefits burden. Other burden factors were not included in the analysis as ERCOT does not have a figure that reflects additional load factor costs, such as facility costs.

R. W. Beck's assessment of ERCOT's contract labor workforce produced a number of findings and recommendations.

Staff Support

Finding: *ERCOT retains a significant amount of contracted labor as Staff Support to perform Zonal Market work activities. The incremental cost of this contracted labor is reasonable.*

Recommendation 5-1: The approach used by ERCOT to obtain contracted labor for Staff Support to support Zonal work activities is sound and should be continued.

Finding: *ERCOT retains contracted labor as Staff Support to perform Nodal Market work activities. The incremental cost of this contracted labor is reasonable.*

Recommendation 5-2: The approach used by ERCOT to obtain contracted labor for Staff Support to support Nodal Market development work activities is sound and should be continued.

Defined Deliverables

Finding: *ERCOT uses a number of Defined Deliverables contracts for Zonal Market activities and Nodal Market development work.*

Recommendation 5-3: The approach used by ERCOT in obtaining Defined Deliverables via contracted services for support of Zonal Market work activities and in support of Nodal Market development work is sound and should be continued.

Outsourced Labor

Finding: *ERCOT outsources non-core competency functional activities.*

Recommendation 5-4: ERCOT should continue outsourcing non-core competency functions such as janitorial and security services. In addition, ERCOT management should continually assess other outsourcing options that may become appropriate as ERCOT's business environment and strategic direction change over time.

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Section 1

OVERVIEW

1.1 Introduction

R. W. Beck, Inc. (R. W. Beck) was engaged by the Public Utility Commission of Texas (PUCT) to perform a Workforce Analysis and Organization Assessment of the Electric Reliability Council of Texas (ERCOT). The purpose of this initiative is to provide the PUCT with an objective assessment of ERCOT's current organizational structure, workforce make-up and key performance measures. This report presents the findings and recommendations independently developed by R. W. Beck pursuant to the written scope of work proposed to the PUCT and approved following initial project meetings with the PUCT. Recommendations address both short-term and long-term improvements, with the objective of leveraging ERCOT's current successful practices with existing and future staff resources to ensure continued reliable, effective and efficient operations of the majority of the electricity market in Texas.

1.1.1 Scope of Assignment

Our Work Plan is described in some detail within the following section. This work Plan was designed around the requirements stated in the PUCT's Request for Proposals.⁴ R. W. Beck met with the PUCT staff following award of the consulting contract to validate the proposed work plan. It was confirmed during that meeting that the consulting services should include the following activities:

- A. Review and evaluate current organizational design and effectiveness;
- B. Review and evaluate current performance goals and achievement, including the appropriateness of the chosen performance measures;
- C. Review and evaluate current workforce staffing, including staffing levels, staffing mix, and retention and recruitment for non-executive positions;
- D. Review and evaluate ERCOT's use of contract workers, including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, the extent to which contracting is planned, and the cost of contract workers compared to employees;
- E. Evaluate whether the current organizational structure and workforce, including the mix of employees and contract workers, are appropriate for ERCOT's mission and responsibilities; and
- F. Recommend specific changes for areas that are not effective, including a timeline by which changes should be accomplished.

⁴ Public Utility Commission of Texas Project No. 34019, Request for Proposals for a Workforce Analysis of the Electric Reliability Council of Texas.

1.1.2 Approach and Methodology

R. W. Beck's Work Plan included four major tasks:

1. Organize and Start-Up the Project
2. Develop Current Situation Analysis
3. Evaluate Key Performance Indicators
4. Produce Draft Report and Final Report

Following initial meetings with the PUCT staff, R. W. Beck completed the following activities to gather information needed to develop findings, conclusions and recommendations discussed in this report:

- Individual interview with the Chairman of the ERCOT Board of Directors.
- Individual interviews with ERCOT's executive management team which included the out-going Chief Executive Officer, the new Chief Executive Officer, the Chief Financial Officer, the Vice President of Market Operations, the Vice President of Information Systems, the Vice President of Systems Operations, the Vice President of Systems Planning, and the Vice President of Human Resources.
- Individual interview with the Internal Auditor.
- Individual interviews with twenty-one (21) directors and managers within ERCOT's various departments.
- Benchmarking analysis wherein ERCOT was compared to other independent system operators with regard to size and implied work load, organizational structure, staffing and key performance measures.
- Review of documentation provided by ERCOT staff, which included, but was not limited to:
 - ERCOT Articles of Incorporation and Bylaws
 - ERCOT Vision and Mission statements
 - ERCOT Corporate Policies and Standards
 - Organization charts
 - Nodal market project plan
 - Staffing summaries with costs and numbers
 - Budget process and procedures
 - 2008 ERCOT Fiscal Year Budget (circa August 21, 2007)
 - Operating policies, protocols, procedures and reports
 - Financial reports
 - Key performance indicators
 - Human resource policies, practices and documents

- Internal operations compliance reports
- Risk management reports
- Internal audit reports
- Annual reports
- Selected PUCT Substantive Rules

A key component of understanding the impacts on ERCOT's effectiveness was profiling ERCOT's operating environment. The operating environment was examined from many perspectives including corporate oversight and governance, public visibility, labor market forces, market oversight and governance including historical evolution of the electricity market in Texas, and past decisions made by ERCOT management. Where practical, the R. W. Beck team identified and evaluated the work load drivers affecting the current ERCOT structure and staffing. The team also compared its observations with R. W. Beck internal databases and what R. W. Beck has observed at well-run utility organizations and other types of organizations across the nation.

1.1.2.2 Assumptions Used

- A. A full time equivalent employee (FTE Employee) is assumed to be an ERCOT employee with a PCN number and working nominally forty (40) hours per week.
- B. All FTE Employees complete a time sheet.
- C. Timesheet reporting by ERCOT employees during the period January 1, 2007 and June 30, 2007 is generally representative of the current staff workload.
- D. Full time equivalent contractor (FTE Contractor) is assumed to be a contractor or vendor employee working nominally forty (40) hours per week.
- E. The scope of the Nodal Market initiative has been approved through the PUCT's open hearings process.⁵ Workload has been previously examined, and through the state hearing process, a surcharge for the market and a budget for the project were approved. R. W. Beck's scope excludes providing opinions concerning Nodal Project workload drivers and the associated staffing numbers or budget. However, in that ERCOT's documentation on contract personnel costs are co-mingled between the Nodal Project personnel and existing Zonal staff, our team's findings on contractor costs, and staffing mix between employees and contractors, may to some extent cross these boundaries.
- F. ERCOT management will conduct a position-by-position task analysis for each authorized job position below the executive ranks. This study will be

⁵ In September 2003, as part of Project 26376, the Public Utility Commission of Texas (PUCT) ordered ERCOT to develop a nodal wholesale market design. The Texas Nodal Program exists to facilitate the transition from a Zonal to a Nodal Market and affects many business processes and systems including: a day-ahead market (DAM), reliability unit commitment (RUC), real-time or security constrained economic dispatch (SCED), and congestion revenue rights (CRRs). The redesigned grid will consist of more than 4000 nodes and will replace the current congestion management zones (CMZs). The Final Order in Docket No. 32686 approving a requested Nodal Project implementation budget of \$248.9 million was approved by the Commission in May of 2007.

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completed during the Fall of 2007. The R. W. Beck team will review the results of ERCOT's job position analysis after it is completed.

1.1.3 Summary of Recommendations

Table 1-1
All Recommendations and Timeline

Number	Recommendation	Timeline
2-1	Critically review and carefully define ERCOT's leadership role with respect to the Texas electric markets and its level of responsibility to the needs and interests of its many stakeholders. Institutionalize this role and responsibilities in the framework of a Strategic Business Plan developed through a sound planning process and, as appropriate, develop associated Board policy.	6-12 months
2-2	Develop a Board policy on committees and, as necessary, modify the ERCOT Bylaws. Review the role of the TAC and consider re-chartering the TAC to clarify and separate its governance advisement role from pseudo-management functions that it also performs. Charter an Executive Committee and separate the Audit Committee of the Board from the Finance Committee. See Figure 2-2 for the recommended committee structure.	6 months or less
2-3	<p>Establish a formal process that structures the interface between ERCOT staff below the executive team level and outside parties. As an example, the following guidelines should be used to immediately modify as necessary Protocols Section 21; Process for Protocol Revision and the interface process(s) between Working Groups and TAC and ERCOT staff on PRRs. Interface Procedure with Working Groups and TAC on PRRs:</p> <ol style="list-style-type: none">1. ERCOT staff will not participate in working group meetings to draft PRRs2. Once a PRR is drafted by the working group, the draft PRR will be submitted for comment to the appropriate ERCOT executive/director for assignment to staff resources3. Staff will fully document comments on a PRR Comment Sheet4. PRR Comment Sheet will be returned to the working group for consideration; appropriate discussions or teleconferences will be conducted5. When the working group forwards the PRR to TAC, all PRR Comment Sheets must be attached6. Should TAC required additional input from ERCOT staff, the draft PRR will be re-submitted with specific information requested to the appropriate ERCOT executive/director for assignment to staff7. Staff will fully document responses to TAC requests on the PRR Comment Sheet8. PRR Comment Sheets will be returned to TAC for consideration; appropriate discussions or teleconferences will be conducted9. When TAC forwards the PRR to the ERCOT Board for approval, all PRR Comment Sheets must be attached	6 months or less
2-4	<p>Reduce the span of control for the CEO as shown in Figure 2-4. The recommended structure includes five direct reports to the CEO. These executives are:</p> <ul style="list-style-type: none">■ Chief Operating Officer responsible for operating standards, grid operations,	6 months or less

	<p>grid planning and commercial operations</p> <ul style="list-style-type: none"> ■ Chief Financial Officer responsible for all financial analysis and reporting, accounting, risk management, budgeting and treasury operations ■ Chief Information Officer responsible for all automated systems supporting commercial operations and grid operations, automated corporate systems and data depositories ■ Chief Administrative Officer responsible for human resource activities, strategic planning, project management policies and guidelines, procurement activities, facilities and security ■ General Counsel responsible for legal affairs, communications, and government relations <p>Note: The Internal Auditor's direct reporting relationship is with the Finance and Audit Committee of the Board of Directors. The Internal Auditor reports administratively to the CEO.</p>	
2-5	Move the Contract Administration and Procurement Department from the CFO's division to the CAO's division.	6 months or less
2-6	Move the Program Management Department from the CFO's division to the Chief Operating Officer's division.	6 months or less
2-7	Consolidate NERC-related compliance activities in one department under the recommended Chief Operating Officer's division. See recommendation 2-4.	6 months or less
2-8	ERCOT should undertake an effort to clarify, re-organize, and streamline its risk management-related functions including ICMP so that goals, roles and responsibilities, and procedures are more clearly defined along with the appropriate organizational alignment. ERCOT appears to have strong risk management talent, especially within the CFO's division, and existing staff appears well-qualified to complete this reorganization.	6 months or less
2-9	To increase visibility and facilitate better access to the executive team, the ERM manager should report directly to the CFO.	6 months or less
3-1	Restructure the format of monthly performance reports to reduce confusion. Clearly state goals and KPIs under each Key Performance Area. Insure the majority of all KPIs are conventionally stated to measure outcomes (or inputs in the case of leading indicators) and not activity-level. State the method used to determine performance described on the dashboard page.	6 months or less
4-1	Reduce the number of members of the Executive team to five as described in Section 2 of this report.	6 months or less
4-2	<p>It is our opinion that seven to eight employees are needed to support the work activities and responsibilities of the Treasury and Credit Administration department. Due to the workload increase driven by the implementation and operation of the Nodal Market, two additional employees are required, which is consistent with the additions presented in the 2008 Staffing Summary.</p> <p>As recommended in Section 2 of this report, the Enterprise Risk Management area is removed from under the Treasury and Credit Administration department. The staffing level recommended for the new Enterprise Risk Management department is two to three FTEs.</p>	
4-3	Based on the current workload for the Contract Administration and Procurement	

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	department, it is R. W. Beck's opinion that 12 employees are needed to support the activities and responsibilities of this department.	
4-4	<p>Based on the current workload for the Controller department, it is our opinion that 18 to 19 employees are needed to support the activities and responsibilities of the accounting and Budget (A&B) area.</p> <p>As described in Section 2 of this report, the Internal Control Management Program (ICMP) and Risk Management departments share common responsibilities and could be consolidated under the Enterprise Risk Management function. The staffing level for an integrated ICMP and Risk Management function would be a staff of five FTEs (three from ICMP and two from Enterprise Risk Management).</p>	
4-5	<p>DPO: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that two to three FTEs would be adequate to support the work activities for this area.</p> <p>Planning, Quality and Reporting: Based on the current workload for this area, it is our opinion that five to six FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that five FTEs would be appropriate to support the work activities for this area.</p> <p>Program Administration: Based on the current workload for this group, it is our opinion that three to four FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of four FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to remain stable; four FTEs appear to be the appropriate number to support the work activities for this area.</p> <p>As explained in Section 2 of this report, R. W. Beck recommends that the PMO department be moved under the CAO.</p>	
4-6	Based on the current workload for the General Counsel division, it is our opinion that 20 FTEs are needed to support the activities and responsibilities of this division. It is apparent this division is not heavily impacted by the Nodal Market Program development and implementation; therefore, we recommend that the staffing level for this division remain at 20 FTEs for 2008 and 2009.	
4-7	<p>Increase and maintain the staffing level of the HR&OD division from ten to 11 or 12 FTEs. The Lawson system indicates that employees in this division are already working the number of hours equivalent to 11 FTEs.</p> <p>As described in Section 2 of this draft report, the HR&OD division should be located within the departments led by the CAO.</p>	
4-8	Maintain the number of FTEs for the Internal Audit division at seven as presented in the 2008 Staffing Summary.	
4-9	Based on the current workload for the Facilities and Site Development division, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.	

4-10	<p>Based on the current workload for the Information Systems Security department, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.</p> <p>Based on the current workload for the Physical Security department, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.</p>	
4-11	<p>EMMS Development: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 17/16 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Enterprise Integration: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Enterprise Information Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 19/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Commercial Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 14 to 15 FTEs, (to reach 15 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Corporate Applications: Based on the current workload for this area, it is our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill</p>	

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	<p>its responsibilities.</p> <p>Database Administration: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p>	
4-12	<p>System Engineering and Administration: Based on the current workload for this area, it is our opinion that 27 to 28 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already is excessive when compared to the actual number of FTEs and overtime is at an average of 23 percent. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. This area will need approximately five additional FTEs in order to fulfill its responsibilities.</p> <p>Storage Resource Management: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven or eight FTEs, (to reach eight/seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Network: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to decrease, however, at this point it is not possible to validate whether a decrease of two or three FTEs, (to reach 10 FTEs in 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Console Operations: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The Console Operations area should be able to fulfill its responsibilities with the 13 FTEs it has budgeted for 2008 and 2009.</p> <p>Commercial Operations: Based on the current workload for this area, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this area today. The Commercial Operations area should be able to fulfill its responsibilities with the 17 FTEs it has budgeted for 2009.</p> <p>Release Management: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven FTEs (to reach seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>EMMS Production Support: Based on the current workload for this area, it is</p>	

	<p>our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>DPO: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already requires three to four FTEs which matches the number of budgeted positions for 2008 and 2009.</p>	
4-13	Maintain the staffing level at four FTEs for the Technical Services Administration department.	
4-14	At this point insufficient information is available to determine whether the Enterprise Architecture department will be appropriately staffed in 2008 and 2009.	
4-15	<p>Settlement Metering: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this area today. During the time period assessed (January 1 to June 30, 2007), two employees joined this area. Once the Nodal Market is operational, the workload for this area is expected to remain stable, however at this point it is not possible to validate whether an addition of two to three FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Energy Analysis and Aggregation: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to remain stable; however at this point it is not possible to validate whether a reduction of one or two FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Settlement and Billing Operations: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine to ten additional FTEs, (to reach 23/22 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Retail Customer Choice: Based on the current workload for this area, it is our opinion that 21 to 22 FTEs are needed to support the activities and responsibilities of this area today. As described in the Future Situation section, this area will not be impacted by the transition to the Nodal Market. This area has also improved certain business processes. R. W. Beck recommends reducing the staffing levels for this area as presented in the 2008 Staffing Summary to 21 FTEs in 2008 and 18 FTEs in 2009.</p> <p>Data Integrity and Administration: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the activities</p>	

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	and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether two to three additional FTEs, (to reach seven/eight FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.	
4-16	<p>Market Rules: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to match the nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.</p> <p>DPO: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 16 FTEs in 2008), is the appropriate staffing number for this area to fulfill its responsibilities in 2008. In addition, at this point it is not possible to validate whether a reduction of five FTEs in 2009, once the Nodal Market is operational (as presented in the 2008 Staffing Summary) is the appropriate staffing level for this area to fulfill its responsibilities.</p> <p>Retail Client Service and Retail Market Analysis: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. R. W. Beck recommends maintaining the staffing levels of this area at 13 FTEs in 2008 and 2009.</p> <p>Market Operations Testing: Based on the current workload for this area, it is our opinion that 20 to 21 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 30/27 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Wholesale Client Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 19 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p>	
4-17	<p>Transmission and Regional Planning: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities related to an increase in wind interconnections as described in the Future Situation, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 26 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is</p>	

	<p>appropriate for this area to fulfill its responsibilities.</p> <p>Congestion Management: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities related to the CRR transaction process, however at this point it is not possible to validate whether three to four additional FTEs, (to reach seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Regulatory Reporting: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R. W. Beck recommends maintaining the staffing level of this department at four FTEs as presented in the 2008 Staffing Summary.</p> <p>As described in Section 2 of this report, R. W. Beck recommends consolidating the Regulatory Reporting with the Operations Standards department under the COO, since they share responsibilities for compliance between ERCOT operating guidelines and standards promulgated by the NERC.</p>	
4-18	<p>Based on the current workload for Operating Standards, it is our opinion that two to three FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with NERC requirements, however at this point it is not possible to validate whether one to two additional FTEs, (to reach four FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>In Section 2 of this report, R. W. Beck recommends consolidating the Operating Standards department and the Regulatory Reporting since they share common responsibilities to conduct work activities in support of NERC requirements, under the COO.</p>	
4-19	<p>DPO and Operator Training: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R.W. Beck recommends maintaining the staffing level for this area at 13 FTEs as presented in the 2008 Staffing Summary.</p> <p>Operations Support, Planning and Engineering, Advanced Network Applications, and Outage Coordination: Based on the current workload for this area, it is our opinion that 43 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one additional FTEs in 2008 and a reduction of 4 FTEs in 2009, (to reach 43/39 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p> <p>Systems Operations: Based on the current workload for this area, it is our opinion that 54 to 55 FTEs are needed to support the activities and responsibilities of this area today. Greater efficiencies are expected to be</p>	

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	gained once the system implemented to support the Nodal Market is operational, which would allow a reduction in work force. However, at this point it is not possible to validate whether 50 FTEs, as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.	
4-20	<p>Market Operations: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 24 FTEs in 2008 and 21 FTEs in 2009 (as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.</p> <p>Network Modeling: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with the development and implementation of the time-based network model, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 14/13 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.</p>	
4-21	ERCOT should analyze the contract resources necessary for this critical period following initiation of the Nodal Market. A budget adjustment should be made to account for the appropriate number of and skills for additional staff above the number currently included in the 2008 budget.	6 months or less
4-22	ERCOT should expand its current Human Resource Strategy to include a career development program, succession plans and a rewards and recognition program. ERCOT should also consider providing additional employee benefits such as flextime and telecommuting in an effort to attract and retain qualified personnel.	12 months or less
5-1	The approach used by ERCOT to obtain contracted labor for Staff Support to support Zonal work activities is sound and should be continued.	
5-2	The approach used by ERCOT to obtain contracted labor for Staff Support to support Nodal Market development work activities is sound and should be continued.	
5-3	The approach used by ERCOT in obtaining Defined Deliverables via contracted services for support of Zonal Market work activities and in support of Nodal Market development work is sound and should be continued.	
5-4	ERCOT should continue outsourcing non-core competency functions such as janitorial and security services. In addition, ERCOT management should continually assess other outsourcing options that may become appropriate as ERCOT's business environment and strategic direction change over time.	12 months or less

Section 2

ORGANIZATION ASSESSMENT

2.1 ERCOT's Current Organization Design and Effectiveness

In general systems theory, organization effectiveness can be defined as the degree to which the actual outputs of the system correspond to its desired outputs.⁶ More simply stated, organizational effectiveness can be viewed as the extent to which an organization achieves its objectives. The PUCT has asked R. W. Beck to examine the current ERCOT structure and effectiveness. It is difficult to consider an organization's effectiveness without paying attention to the organization's efficiency. Efficiency is defined as the ratio of actual outputs (what is produced or delivered) to actual inputs (resources needed to produce or deliver). For ERCOT, the resources side of this ratio is represented predominately by its employees and contractors. The PUCT has asked R. W. Beck to address the efficiency of ERCOT's workforce and our recommendations are found in Section 4 of this report.

In many organizations, a large portion of management's attention is directed toward internal efforts designed to make day-to-day operations as efficient as possible. Indeed, if sufficient time is not given to maintaining efficient operations, the organization will surely suffer. In general, however, long-run success is much more dependent on improvements in the organization's effectiveness.

In this section, R. W. Beck will address our findings with regard to the entire ERCOT organization, from the Board of Directors through management, to the operating units and sub-groups, all in the context of ERCOT's business environment. We start by reviewing ERCOT's vision and mission, its strategic goals and objectives, and other stated responsibilities. Our evaluation of ERCOT's organization effectiveness includes extensive investigation of the way in which work activities are planned, initiated and carried out by the processes in place. This includes identifying the work "drivers" for the organization. Recommendations are made where deemed appropriate to increase organizational effectiveness.

2.1.1 Governance and Management

This section addresses ERCOT's governance and its impact on organizational effectiveness. For purposes of this analysis, the term "governance" includes both the structure of governance as established by ERCOT's Bylaws and Board policies, and the process of governance as practiced by the ERCOT Board of Directors.

⁶ Charles Hofer and Dan Schendel, *Strategy Formulations: Analytical Concepts* (New York; West Publishing Company, 1978)

2.1.1.1 Strategic Direction

Finding: *ERCOT operates largely in a reactive mode with respect to Market Participants, the PUCT, and other outside entities. Even though the construct of the electricity market in Texas requires the Independent System Operator to react to the needs of market participants, ERCOT's effectiveness and efficiency as an organization would benefit from a strategic planning program that provides proactive guidance.*

Background:

An organization's structure reflects the Board's and management's priorities for the organization. Therefore, the organizational structure must be optimized to permit effective and efficient functions. Under ERCOT's current structure, neither the Board of Directors nor management has enforced a strategic planning culture. This is counter to the practice at most ISOs reviewed by the R. W. Beck team. R. W. Beck views this omission as a primary weakness within the ERCOT organization.

The lack of a strategic direction presented by management and endorsed by the Board results in uncertainty throughout the organization. R. W. Beck requested a copy of ERCOT's strategic plan, but no formal strategic plan was available. Although the current relationship and supporting communication process between the Board and management shows no sign of stress, agreed to high-level guidance from the Board on which management can base decisions, or at a minimum start the dialogue on the issue at hand, has not been documented.

An example of this omission's impact on ERCOT staff is found in the August 4th 2006, Risk Management "stop-light" report⁷ that presents an assessment of the organization's status in several categories including Strategic Position, Operational Experience, Market Facilitation, Grid Reliability, Reporting and Compliance. The cited Risk Management report states under the Strategy Development category, *"ERCOT staff is generally not sufficiently aware of ERCOT's short or long-range strategic plan."* The cited Risk Management report continues by stating that *"Turnover in Senior Management has resulted in uncertainty regarding ERCOT's strategic vision."* It should be noted however that the ERCOT Board has recently appointed a new CEO and all positions in the executive team are currently filled.

ERCOT, in publishing a Vision and Mission for the company, began some time ago the process of establishing strategic direction. ERCOT's vision is *"for Texas electricity customers to realize the greatest value from reliable power supplies and access to competitive markets for electricity."*

ERCOT's mission is *"to direct and ensure reliable and cost-effective operation of the electric grid and to enable fair and efficient market-driven solutions to meet customer's electric service needs."* R. W. Beck finds that even though these declarations form a sound springboard for establishing a strategic planning program, no such program appears to be in existence.

⁷ The Electric Reliability Council of Texas, Inc. Risk Management Event Profile Matrix (as of August 4th, 2006)

Recommendation 2-1: Critically review and carefully define ERCOT's leadership role with respect to the Texas electric markets and its level of responsibility to the needs and interests of its many stakeholders. Institutionalize this role and responsibilities in the framework of a Strategic Business Plan developed through a sound planning process and, as appropriate, develop associated Board policy.

2.1.1.2 Board Committees

Finding: *Given the size of the ERCOT Board of Directors, a clearly defined committee structure would help the Board accomplish its governance functions more effectively.*

Background: The Bylaws do not establish any formal structure for Board committees with the exception of the Technical Advisory Committee (TAC). The TAC appears to be a hybrid committee of the Board with Management-like functions. In some ways, the functions of the TAC relate more directly to the management of ERCOT than to its governance. Although the TAC has proven useful to the Board in establishing the Zonal Market and developing the framework for the Nodal Market, in the future both the Board and Management could be dedicating more time and effort to the TAC than is either necessary or productive. This is because ERCOT today is a much more robust organization with deeper technical expertise than in the past.

The Board currently has established two committees: Finance and Audit Committee, and Human Resources and Governance Committee. The Board does not have an Executive Committee. See Figure 2-1 for the current committee structure. An Executive Committee could improve the effectiveness and efficiency of the Board's core governance functions, while at the same time helping ERCOT Management support those functions effectively and efficiently. In addition, separating the Audit Committee from the Finance Committee would allow a higher degree of independent assessment by the responsible Board members.

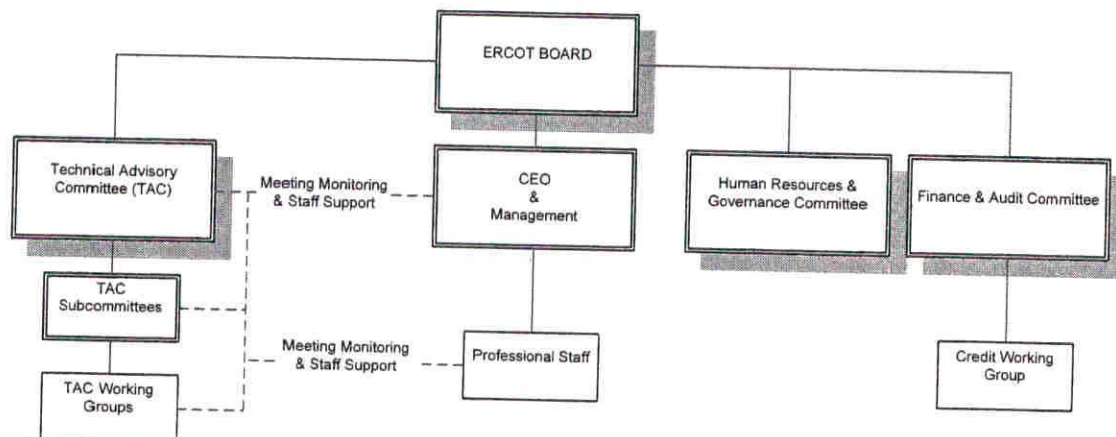


Figure 2-1: Current Governance Schematic

Section 2

The Board has established a Credit Working Group of independent experts to support the Finance and Audit Committee. The Credit Work Group reviews all sections of the ERCOT protocols that impact creditworthiness requirements or collateral calculation and provides recommendations to the Finance and Audit Committee. The Credit Work Group has provided comments to TAC subcommittees when PRRs or other actions have credit implications. This working group should continue to prove valuable in the future if credit issues expand as expected with the Nodal Market.

Recommendation 2-2: Develop a Board policy on committees and, as necessary, modify the ERCOT Bylaws. Review the role of the TAC and consider re-chartering the TAC to clarify and separate its governance advisement role from pseudo-management functions that it also performs. Charter an Executive Committee and separate the Audit Committee of the Board from the Finance Committee. See Figure 2-2 for the recommended committee structure.

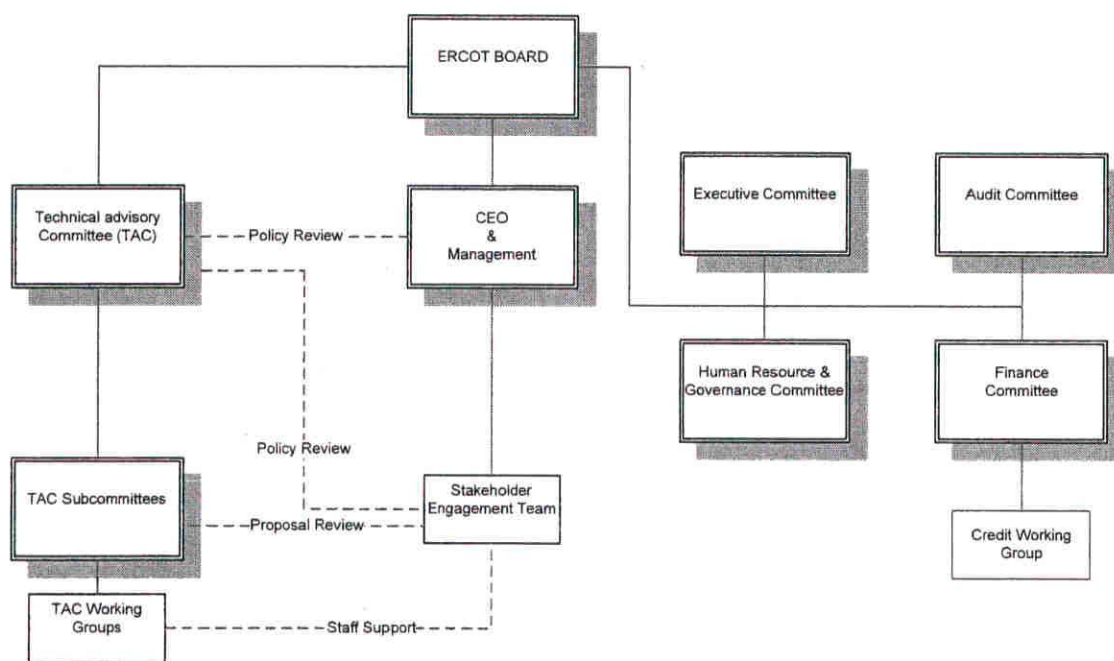


Figure 2-2: Future Governance Schematic

2.1.1.3 Interface Between Market Participants and the ERCOT Staff

Finding: *R. W. Beck's evaluation indicates that ERCOT's current organizational effectiveness is adversely affected by the informal interface between market participants and ERCOT staff.*

Background: In a valid desire to be responsive to its stakeholders, ERCOT (both Board and Management) has over the past years created a difficult situation for today's organization. All organizations are continuously challenged to balance stakeholder needs and expectations with available organizational resources. Certainly,

in the early years of ERCOT's history a more informal interface arrangement was useful. However, at this point in ERCOT's evolution and with its growth in size, there is increasing concern for organizational effectiveness and cost control. Today, ERCOT is a much larger and more complex entity than in its early years. There is also a strong desire and determination to maintain tighter management control and to enhance ERCOT's level of performance in its core areas of responsibility.

The following citation comes from the ERCOT website. *Market participants seeking an ERCOT interpretation of the protocols are free to communicate informally with ERCOT staff. However, the opinion of an individual ERCOT staff member is not an official interpretation of the protocols and may not be relied upon by a market participant as a defense for failure to comply with the protocol or PUCT rules.*⁸ This statement is included even though the formal process states, *The ERCOT general counsel is responsible for receiving and responding to all Protocol Interpretation Requests (PIRs).*⁹ Although this language may be meant as a caution to market participants as to who has final say on interpretation of protocols, this statement describes a situation typical of the informal contact that occurs regularly and that creates significant challenges for ERCOT managers in attempting to apply resources in an efficient manner.

The manner in which market participants informally communicate with ERCOT staff (and vice versa) has become de rigueur with regard to the various market working groups such as retail, wholesale, commercial operations, operational reliability, TPTF and others. Indeed, the same situation occurs with the Technical Advisory Committee (TAC). It is difficult, if not impossible, for an organization to operate in a controlled, planned manner with unlimited open-access to its staff by outsiders. The number of informal meetings involving ERCOT staff and outside parties continues to grow year by year.

Recommendation 2-3: Establish a formal process that structures the interface between ERCOT staff below the executive team level and outside parties. As an example, the following guidelines should be used to immediately modify as necessary Protocols Section 21; Process for Protocol Revision (PRR) and the interface process(s) between Working Groups and TAC and ERCOT staff on PRRs.

Interface Procedure with Working Groups and TAC on PRRs:

1. ERCOT staff will not participate in working group meetings to draft PRRs
2. Once a PRR is drafted by the working group, the draft PRR will be submitted for comment to the appropriate ERCOT executive/director for assignment to staff resources
3. Staff will fully document comments on a PRR Comment Sheet
4. PRR Comment Sheet will be returned to the working group for consideration; appropriate discussions or teleconferences will be conducted

⁸ ERCOT website, Protocol Interpretation Request Submission Process

⁹ Ibid.

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5. When the working group forwards the PRR to TAC, all PRR Comment Sheets must be attached
6. Should TAC required additional input from ERCOT staff, the draft PRR will be re-submitted with specific information requested to the appropriate ERCOT executive/director for assignment to staff
7. Staff will fully document responses to TAC requests on the PRR Comment Sheet
8. PRR Comment Sheets will be returned to TAC for consideration; appropriate discussions or teleconferences will be conducted
9. When TAC forwards the PRR to the ERCOT Board for approval, all PRR Comment Sheets must be attached

2.1.2 Structure

Top executives today in American business tend to “manage by organization chart.” Prevailing wisdom suggests that if an executive can just get the right boxes on the chart, array them in the appropriate hierarchy, and appoint strong people to head them up, the organization will succeed. Unfortunately, this appealing and simplistic type of approach leads management to reorganize frequently to create a new box to deal with the current hot issue or to improve performance. This section addresses ERCOT’s approach to organizational design, the effectiveness of the current structure and recommended changes where appropriate.

The drivers behind R. W. Beck’s recommendations on structure include:

- Improve management focus
- Eliminate duplication of staff or effort
- Provide greater flexibility to address unique issues and needs
- Eliminate “silo” effects
- Increase effectiveness under nodal market operations

2.1.2.1 The Chief Executive’s Span of Control

Finding: *The span of control for the Chief Executive Officer (CEO) is too broad.*

Background: At the time of the R. W. Beck team’s investigation, the ERCOT CEO had nine direct reports, including Vice-Presidents (VP) and Directors, as illustrated in Figure 2-3. In 2008 ten executives will report directly to the CEO:¹⁰ Chief Operating Officer, Vice-President (VP) and Chief of Market Operations, VP and Chief Information Officer, General Counsel, VP and Chief Financial Officer, VP System Operations, VP System Planning, VP Human Resources, Director Corporate Security and Safety, and Director of Facilities and Site Planning. Additionally, the Director of

¹⁰ Executive Department 101 – 2008 Organization Structure Chart (DRAFT)

Internal Audit reports administratively to the CEO. See Figure 2-3 for ERCOT's current executive level structure. Many organizational experts consider a span of control that includes more than seven or eight direct reports to be excessive and less effective. Of course, many factors impact the optimum number of direct reports. These factors include the relative "strength" of the CEO's existing executive team, the complexity of the business conducted, outside environmental and community demands placed on the CEO, and the interface requirements between the CEO and the Board of Directors or other governing bodies. The CEO of a large Independent System Operator is affected by these factors and others.

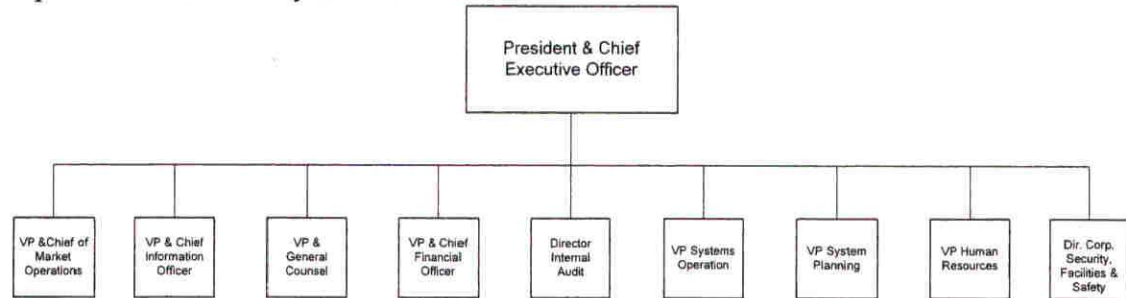


Figure 2-3: Current Executive Level Organization Chart

Those who favor a more horizontal executive level structure will argue that more voices at the table make for better decision-making. In fact, R. W. Beck's experience in evaluating organizations in the electric utility industry is that the better performers have smaller, highly qualified executive teams. Impacts of a broad executive team often include reduction in timely decision-making, a tendency toward "consensus thinking", and lack of clear lines of responsibility and accountability. A survey of other ISOs shows that most use a smaller executive team than that found at ERCOT.

**Table 2-1
Number of CEO Direct Reports**

Organization	Direct Reports to CEO or COO
California ISO	7
Alberta Electric System Operator	8
ISO New England	10
Midwest ISO	9
NEMMCO (Australia)	5
New York ISO	7
IESO (Ontario)	6
NBSO (New Brunswick)	7
PJM	6
SPP	5

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Recommendation 2-4: Reduce the span of control for the CEO as shown in Figure 2-4. The recommended structure includes five direct reports to the CEO. These executives are:

- Chief Operating Officer responsible for operating standards, grid operations, grid planning and commercial operations
- Chief Financial Officer responsible for all financial analysis and reporting, accounting, risk management, budgeting and treasury operations
- Chief Information Officer responsible for all automated systems supporting commercial operations and grid operations, automated corporate systems and data depositories
- Chief Administrative Officer responsible for human resource activities, strategic planning, project management policies and guidelines, procurement activities, facilities and security
- General Counsel responsible for legal affairs, communications, and government relations

Note: The Internal Auditor's direct reporting relationship is with the Finance and Audit Committee of the Board of Directors. The Internal Auditor reports administratively to the CEO.

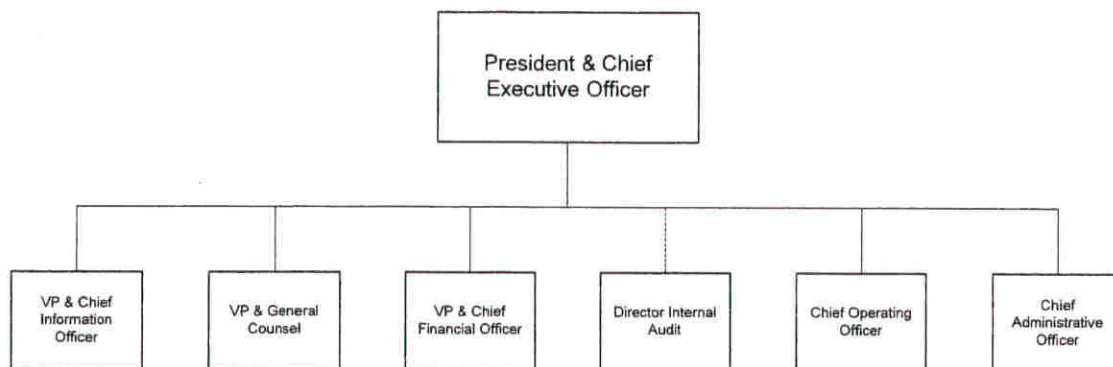


Figure 2-4: Recommended Executive Level Organization Chart

2.1.2.2 Contract Administration and Procurement

Finding: *ERCOT's Contract Administration and Procurement Department currently operates under the Chief Financial Officer (CFO). This department's functions do not fit well within the CFO's division.*

Background: This group has struggled with quality and timeliness of service delivery in recent years. Functional activities of this department are not a good match with those of the Finance Division. The functional activities of this department, including interfacing with vendors and negotiating contract terms, are better suited to location

under the recommended Chief Administration Officer's division. See recommendation 2-4.

Recommendation 2-5: Move the Contract Administration and Procurement Department from the CFO's division to the CAO's division.

Finding: *The Program Management Department currently operates under the Chief Financial Officer. This department's functions do not fit well within the CFO's division.*

Background: This department has been changed from a central program/project management group to a distributed structure during the last year. The functional activities of this department are better suited to location under the recommended Chief Operating Officer's division. See recommendation 2-4.

Recommendation 2-6: Move the Program Management Department from the CFO's division to the Chief Operating Officer's division.

2.1.2.3 Operations Standards Department and Regulatory Support and Reporting Department

Finding: *Apparent redundant objectives and roles exist for the Operations Standards Department, currently under the VP Systems Operations, and the Regulatory Support and Reporting Department, currently under the VP Systems Planning.*

Background: As explained to the R. W. Beck team, both these departments have significant responsibility for compliance between ERCOT operating guidelines and protocols and standards promulgated by the North American Electric Reliability Corporation (NERC). Both departments plan additional employees in 2008. The number of additional employees needed may be decreased by consolidation of these two departments.

Recommendation 2-7: Consolidate NERC-related compliance activities in one department under the recommended Chief Operating Officer's division. See recommendation 2-4.

2.1.2.4 Enterprise-wide Risk Management Department

Finding: *An undesirable degree of ambiguity appears to exist regarding the risk management-related roles of Internal Audit, the internal controls management program (ICMP), the enterprise risk manager position (ERM), and other risk management-related functions. This will tend to cause inefficiencies and hinder risk management effectiveness.*

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Background: Historically, risk management functions in North American industry have focused on protection of assets and prevention of fraudulent activities that would cause financial and/or reputation-related losses. Part of this focus led to the efforts of the Treadway Commission in the 1980s which promoted the creation of the COSO Integrated Control Framework. This body of work is the leading reference for how internal controls should be designed, implemented, and tested. The Integrated Control Framework deals extensively with risk management, but primarily in the context of internal controls to prevent theft and other forms of losses to assets and to help ensure accurate financial reporting. More recently, COSO re-grouped to create the separate COSO Enterprise Risk Management Framework. The COSO ERM Framework describes and promotes leading practices for dealing with risk in a comprehensive manner across an enterprise. While clearly a positive step, it has also created confusion in some cases regarding the role of internal audit, compliance, and centralized ERM functions. ERCOT's Internal Control Corporate Standard and Enterprise Risk Management Corporate Standard contain significant overlap and lack of clarity regarding "who is responsible for what." Further, various definitions and implied protocols in these standards are poorly stated and are not well-designed. This creates a morass of risk management requirements which are arguably difficult to understand and implement.

Recommendation 2-8: ERCOT should undertake an effort to clarify, re-organize, and streamline its risk management-related functions including ICMP so that goals, roles and responsibilities, and procedures are more clearly defined along with the appropriate organizational alignment. ERCOT appears to have strong risk management talent, especially within the CFO's division, and existing staff appears well-qualified to complete this reorganization.

Finding: *Enterprise Risk Management will need more visibility within the organization.*

Background: ERCOT recognizes the importance of understanding its short-term and long-term risk exposures and the process of developing and implementing risk mitigation strategies. For ERCOT, risk is defined as exposure to unfavorable outcomes relative to ERCOT's responsibilities as defined by the Public Utility Regulatory Act (PURA), PUCT substantive rules, market protocols, NERC guidelines and ERCOT corporate objectives. According to ERCOT's Enterprise Risk Management Corporate Standard, the Board of Directors is responsible for oversight of ERCOT's management including the design and operation of the risk management program. The CEO is responsible for:

- 1) Recognizing the risks to which ERCOT is exposed and ensuring that the requisite risk management culture, policies, practices and resources are in place.
- 2) Ensuring that ERCOT's activities are carried out within the parameters of the risk management framework.

- 3) Provisioning and allocating resources to mitigate risk in accordance with ERCOT's risk tolerance.
- 4) Ensuring that ERCOT's Board, the PUCT and other relevant authorities are informed of risks taken in pursuing ERCOT's goals and objectives.

The CEO has established a Risk Management Committee (RMC) to provide oversight in the identification and management of risk for the overall enterprise. The CEO designates the members of the RMC.

The Enterprise Risk Manager is responsible for supporting the review of all enterprise risks associated with ERCOT. Currently Enterprise Risk Management is located in the Finance Division under the Treasurer. The Enterprise Risk Manager (ERM) is responsible for:

- 1) Supporting the efforts of the Risk Management Committee (RMC) and risk subcommittees.
- 2) Conducting periodic entity-wide risk awareness training
- 3) Assisting in the development of internal codes
- 4) Developing and implementing methods to identify, monitor and report enterprise risk
- 5) Other duties as directed by the RMC

The ERM function also provides reports on ERCOT's compliance with its risk standards to the Board and the RMC.

Recommendation 2-9: To increase visibility and facilitate better access to the executive team, the ERM manager should report directly to the CFO.

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Section 3

PERFORMANCE MEASUREMENT

3.1 Key Performance Indicators

R. W. Beck was tasked by the PUCT to review and evaluate ERCOT's current performance goals and their achievement, including the appropriateness of the chosen measures. This section addresses findings and recommendations with regard to the assessment of ERCOT's overarching performance measures for the organization. In conducting its review, the R. W. Beck team discussed the performance measurement process and specific goals with ERCOT executives and directors. The team also reviewed published reports addressing Key Performance Indicators (KPIs), and associated goals and results, for 2006 and 2007.

High level Key Performance Indicators (KPIs) are essential to effective leadership and management within a business entity. As a leadership tool, the KPIs should comprise a holistic system that supports a continuous balancing of ERCOT's needs and resources as an organization. They should also help ERCOT move in the direction called for by the strategic plan. As a management tool, KPIs should encompass the specific operational and administrative performance measures that are relevant to achievement of the organization's goals and tie them together within broad categories.

3.1.1 Key Performance Areas and Monthly Reports

ERCOT currently lists nine KPIs (hereinafter referred to as Key Performance Areas (KPIs)) on its monthly performance reports. Forty-five performance measurements (hereinafter referred to as Key Performance Indicators (KPIs)) are used to evaluate and report on these KPAs.¹¹ The nine performance areas are shown in Table 3-1.

¹¹Exhibit A: ERCOT Key Performance Indicator Matrix, YTD August 1, 2007

Table 3-1
Current Key Performance Areas

	KPAs
1	Compliance with ERCOT Protocols, and NERC Standards and Requirements
2	Retail Transaction Processing in Accordance with Protocols
3	Wholesale Transaction Processing in Accordance with Protocols
4	Completion of Nodal Milestones in Accordance with Schedule and Budget
5	Conduct Base Operations Within Approved Budget
6	Conduct Legal, Legislative and Regulatory Activities in Accordance With Rules
7	Hire and Retain the Staff Necessary to Meet the Business Demands
8	Receipt of Favorable Financial and SAS 70 Audits
9	Sustain and strive to improve market participant satisfaction within legislative, regulatory and corporate governance parameters. <i>(Not included in 2007 goals - survey is performed bi-annually.)</i>

ERCOT's summary-level monthly performance report consists of one "dashboard" page that presents a subjective assessment of current and prior calendar quarter performance, a trend arrow and a status statement (e.g. In Progress). On additional pages, each KPA is divided into one or more Goal Statements. Each Goal Statement has an associated Performance Measurement. Each Goal Statement is given a percentage value (e.g. 10%, 20%, etc.) as to its weight within the KPA, and is assigned to one or more executives by name.

Performance report documents provided to the R. W. Beck team by ERCOT indicate that a status report has been published monthly through 2006 and 2007 showing the KPAs and a current status. Reports generated in 2006 used a slightly different performance scoring on the front dashboard page. In these 2006 reports the back up pages were much more quantitative with graphical representations of performance to goals and other additional information. R. W. Beck understands that these more detailed monthly reports were initiated by a previous CEO in 2005 as a means to track performance to goals more precisely for purposes of the executive bonus compensation program then in existence. This practice was discontinued at the end of 2006.

In 2007, the monthly reports are less quantitative in content. Also, certain KPA areas were restated at the beginning of 2007. All KPAs show measurement activity except for KPA number nine; performance tracking for this KPA is scheduled to begin in early 2008.

3.1.1.1 Adequacy of ERCOT's Key Performance Measurement Process

Finding: *ERCOT's performance measurement process provides reasonable coverage for all significant operational and administrative functional areas, and has been consistently applied during 2006 and 2007. However, the use of the terms "Goals"*

and “Measures” in these reports is not consistent and can be confusing. Because of this situation, and because there is no stated definition of how the responsibility weighting is used to designate goal achievement, the dashboard front page of the report may be misinterpreted by the reader.

Background: The R. W. Beck team reviewed ERCOT’s *Key Performance Indicator Matrix* monthly reports for 2006 and 2007. This finding and background discussion is applicable to the 2007 reports. The Goals column and the Measurement column on the KPA back up sheets can be confusing as the application of terms varies from one KPA to another. The convention most often used for key performance indicators holds that the measure should be “outcome” based, and the outcome should be measurable and associated with some time period. (Note that for some indicators it is also useful to measure inputs.) Several of the ERCOT KPIs do use this convention although these statements are sometimes under the Goals column and other times under the Measurement column. However, many statements found under the Goals column and under the Measurement column do not use this convention. These other statements are clearly “activity-based” statements.

Activity-based goals and measurements should be limited, and can be detrimental to organization performance. “Activities are the things people must do to produce performance outcomes. We can not achieve outcomes without doing activities...But activities are not outcomes. When people confuse activities with goals, they get lost. They soon cease all pursuit of clear and compelling outcomes and results. They travel in circles. Instead of producing outcomes that matter, activity-based goals only produce more activities that in turn produce still more activities, and so on. In contrast with clear, outcome-based performance goals, they know best how to choose, conduct, evaluate, and modify the activities necessary for such achievement. They continue to do activities, but with clear purposes and goals in mind.”¹²

An example of an activity-based measure is found in KPA number five: Conduct Base Operations Within Approved Budget. The first Goal statement listed is “Facilitate quarterly performance reviews with executive officers.” The associated Measurement statement is “Quarterly review held with documentation & discussion regarding action items.” By contrast, an outcome-based measure would state “Quarterly comparison of approved budget to actual expenditures showing percentage expended for each functional area within the organization.”

KPIs used in most organizations typically “lag” performance. The KPI concerning quarterly budget reviews discussed earlier is an example of a lag measurement. ERCOT management may find the use of “lead” KPIs to be helpful for some areas in predicting performance. Consider KRA number seven, which addresses ERCOT human resources. A conventional lag KPI used for the human resources area is “track staff turnover ratio quarterly.” A lead performance indicator to help management anticipate staff turnover would be a survey-based “annual rating of employee satisfaction.” Such a measurement could be used as a predictor for staff turnover ratio in the future.

¹² Douglas K. Smith, *Make Success Measurable*, New York: John Wiley & Sons, Inc., 1999

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Finally, the logic and method is not clear as to how current or prior quarter performance is designated on the dashboard page for a given KPA, e. g. "Goal Achieved" or "In Progress". The R. W. Beck team was unable to obtain a description of how the weighting factors shown on the back up pages are used to make such judgments for reporting on the Dashboard page.

Recommendation 3-1: Restructure the format of monthly performance reports to reduce confusion. Clearly state goals and KPIs under each Key Performance Area. Insure the majority of all KPIs are conventionally stated to measure outcomes (or inputs in the case of leading indicators) and not activity-level. State the method used to determine performance described on the dashboard page.

Section 4

WORKFORCE ANALYSIS

4.1 Introduction

This section of the report provides R. W. Beck's findings, background discussions and recommendations with regard to the following activities included in our Scope of Work:

- Review and evaluation of the current workforce staffing, including staffing levels, staffing mix, and retention and recruitment for non-executive positions;
- Review and evaluation of ERCOT's use of contract workers, including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, extent to which contracting is planned, and cost compared to employees;
- Evaluation of whether the current organizational structure and workforce, including the mix of employees and contract workers, are appropriate for ERCOT's mission and responsibilities.

The recommendations regarding the adequacy of current and proposed future staffing levels across all divisions and departments are based on R. W. Beck's understanding of each business unit's responsibilities and functional activities, a review of ERCOT's organization charts, a review of the Staffing Summary included in the 2008 Budget prepared by ERCOT (2008 Staffing Summary), interviews with Directors, Vice Presidents and other key managers, and an assessment of the time worked by employees from January 1 to June 30, 2007 as tracked by the Lawson accounting system.

A more detailed job position task and skills analysis should be conducted where the workload for each position is examined and quantified to determine staffing needs for each business unit. R. W. Beck understands that ERCOT has recently embarked upon such a detailed job position analysis within the organization. R. W. Beck will refine its preliminary findings and recommendations as needed following our review of the results from ERCOT's organization-wide job position analysis.

As Table 4.1 illustrates, the present staffing levels for the majority of the divisions within the ERCOT organization appear to be adequate. Table 4.1 does not include the Executive department and other administration areas such as CIO Administration and CMO administration as these include the executive positions for the different divisions. Minor inconsistencies in ERCOT reported data and R. W. Beck recommendations in Section 2 as to department relocations within the organization did not result in material differences in staffing levels from those proposed by ERCOT for 2007 and 2008. R. W. Beck did present a recommended increase in Nodal Market

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transition period staffing. The level of need will require an analysis by ERCOT. See recommendation 4-21 in Section 4.14 of this report.

Table 4.1
Staffing Levels by Division and Department

Section	Division	Department	Average Overtime %	Staffing Level	ERCOT's Budget 2008 / 2009 FTEs*	Comment
4.4	Finance	Treasury & Credit Administration	4	Appears to be adequate	9 / 9	Overtime levels below 10% are considered within adequate ranges
		Contract Administration & Procurement	7	Appears to be adequate	12 / 10	Overtime levels below 10% are considered within adequate ranges
		Controller	4 - 5	Appears to be adequate	22 / 21	Overtime levels below 10% are considered within adequate ranges
		Program Management Office	2 - 15	Appears to be inappropriate for some areas	17 / 12	Average overtime levels for the DPO department are 15%
4.5	General Counsel	N/A	5	Appears to be adequate	20 / 20	Overtime levels below 10% are considered within adequate ranges
4.6	Human Resources & Organizational Development	N/A	9	Appears to be adequate	11 / 11	Overtime levels below 10% are considered within adequate ranges
4.7	Internal Audit	N/A	6	Appears to be adequate	7 / 7	Overtime levels below 10% are considered within adequate ranges
4.8	Facilities & Site Development	N/A	15	Appears to be inadequate	14 / 13	Average overtime levels is over 10%
4.9	Information & Physical Security	N/A	2 - 9	Appears to be adequate	15 / 13	Overtime levels below 10% are considered within adequate ranges
4.10	Information Technology	Application Services	1 - 8	Appears to be adequate	89 / 84	Overtime levels below 10% are considered within adequate ranges
		Infrastructure & Operation Services	5 - 23	Appears to be inadequate in several areas	104 / 93	Average overtime levels for certain departments are over 10%
		Technical Services Administration	5	Appears to be adequate	4 / 4	Overtime levels below 10% are considered within adequate ranges
		Enterprise Architecture	Insufficient data available	N/A	8 / 7	N/A

4.11	Market Operations	Commercial Operations	2 - 8	Appears to be inappropriate for several areas	71 / 68	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
		Market Services	2 - 5	Appears to be inadequate	87 / 77	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
4.12	Systems Planning		4 - 5	Appears to be adequate	37 / 37	Overtime levels below 10% are considered within adequate ranges
4.13	System Operations	Operating Standards	7	Appears to be adequate	4 / 4	Overtime levels below 10% are considered within adequate ranges
		Grid Operations	4	Appears to be inadequate	106 / 96	Overtime levels are within range; however, the number of FTEs calculated to support the hours worked does not match the numbers of FTEs listed in the 2008 Budget Summary
		Wholesale Market Operations	2 - 3	Appears to be adequate	38 / 34	Overtime levels below 10% are considered within adequate ranges

*Source: ERCOT Fiscal Year 2008 Budget, Staffing Summary.

4.2 Staffing Review

In order to fulfill its mission and vision, ERCOT requires appropriate levels of qualified employees and contractors. ERCOT is responsible for operating the electric grid, providing open access to transmission services, enabling wholesale and retail electric markets, and planning future electric transmission systems. In September 2003, the PUCT mandated that ERCOT develop a Nodal Wholesale Market, which is to go "live" in January 2009. At the time of this assessment, ERCOT is in a transitional stage where it is performing the necessary steps to develop the systems, tools, policies and procedures needed to comply with the PUCT's mandate. It is concurrently responsible for the ongoing operation of the Zonal wholesale market. Conducting a high-level assessment of staffing levels during a transition period is

challenging. The workload drivers for each business unit may have been defined, but the amount of work activities that will take place for those areas impacted by the Nodal Market operations is an estimate.

The staffing analysis included an assessment of overtime worked as collected in the Lawson accounting system. The data provided the department for each employee, the activities performed by employees, number of hours for each activity, and overtime hours worked. The data does not provide sufficient detail to determine if an employee is an exempt or non-exempt employee. ERCOT's Corporate Standards state that payment for hours worked to non-exempt employees is contingent upon submission of a timesheet through the Lawson system and all non-exempt employees are required to provide an accurate accounting of the hours worked. R. W. Beck understands that the majority of exempt employees have been submitting the required timesheets during the period from January to June 2007.

The data collected from the Lawson system has additional limitations in that the listing of job position title for each employee is not provided. Departments and divisions do not always match the 2008 Budget Summary listing for departments or business units. It is cumbersome to identify when an employee from a certain department has joined, left or transitioned to a different area. The Lawson data does provide sufficient detail regarding the number of hours worked and activities conducted in the period of time reviewed. Modification of the time sheets so that additional detail regarding the tasks conducted by each employee would prove useful for staffing level projections.

Each staffing section of this report presents a statement that describes our Preliminary Finding. The Background detail for each division or department includes a Pre-Nodal Situation analysis and a Future Situation analysis. The Pre-Nodal Situation reviews the number of positions in the division/department and the associated workload as it was found by the R. W. Beck team at the start of this assessment. The Future Situation review considers the reasons for staff increases or decreases in 2008 and 2009. Preliminary Recommendations are based on the Background discussion provided.

4.3 Executive Division

Finding: *The size of the Executive Team is not the most effective and efficient to lead ERCOT.*

Background: As described in Section 2 of this report, it is R. W. Beck's opinion that the span of control of the CEO is too broad and that the number of members in the Executive team is too large. In Section 2, we recommend that the number of executives that report directly to the CEO be reduced to five including: CFO, CIO, COO, CAO, and VP & General Counsel.

It is necessary to note that in the Staffing Summary included in the 2008 Budget and the organizational charts for the Executive department (department number 101), lists only the following four positions: CEO, COO, Director of Security and Executive Assistant. The remaining executive positions are accounted for under their respective divisions.

Recommendation 4-1: Reduce the number of members of the Executive team to five as described in Section 2 of this report.

4.4 Finance Division

The staffing assessment includes a review of all the departments within the Finance division which are:

- Treasury and Credit Administration
- Contract Administration and Procurement
- Controller
- Project Management Office

4.4.1 Treasury and Credit Administration

The Treasury and Credit Administration department is located within the Finance division and is responsible for cash management, lending relationships, investments, credit processes and enterprise risk management.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Treasury and Credit Administration department appear to be adequate.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that this department has six positions which include the Treasurer, a Credit Manager, two Credit Analysts, one Treasury Analyst and one Enterprise Risk Manager.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this department recorded over 6,100 hours. This number of hours represents 5.8 Full Time Equivalent (FTE) employees. This calculated number matches very closely the actual number of persons in the department. One employee left this department during the time frame reviewed.

The Lawson time tracking tool also provides information regarding overtime levels and it illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was four percent. The percentage of overtime worked by the employees ranged from three to 12 percent. This amount of overtime may be explained by the fact that for some time from January 1, to June 30, 2007, the department was understaffed for the workload experienced.

Future Situation:

The 2008 Staffing Summary shows that this department increases its staff from six positions to nine positions in 2008. The 2008 and 2009 organizational charts show that the additional positions are a Credit Analyst, a Treasury Analyst and a Business Continuity Analyst.

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The request for the additional Credit Analyst is due to the increased complexity of the Day Ahead Market (DAM) and Congestion Revenue Rights (CRR) transactions that will take place in the Nodal Market structure. In addition, in the Nodal Market the number of Market Participants is expected to increase and include more trading entities.

The additional Treasury Analyst is needed to support the DAM operations in the Nodal Market. In the Zonal Market, there are wire transfers that are received on Thursday and settlement wire transfers sent out on Friday. In the Nodal Market, the wired settlements will occur on a daily basis and the volume of wire transfer activity is expected to increase to more than five times the current volume.

The Business Continuity Analyst position will be responsible for assisting the Enterprise Risk Manager and helping make the Enterprise Risk Management program more robust.

As described in Section 2, R. W. Beck recommends that the Enterprise Risk Management area be positioned as a separate department directly reporting to the CFO, which would reduce the number of positions in the Treasury and Credit Administration Department by two; the Enterprise Risk Manager and the Business Continuity Analyst.

Recommendation 4-2: It is our opinion that seven to eight employees are needed to support the work activities and responsibilities of the Treasury and Credit Administration department. Due to the workload increase driven by the implementation and operation of the Nodal Market, two additional employees are required, which is consistent with the additions presented in the 2008 Staffing Summary.

As recommended in Section 2 of this report, the Enterprise Risk Management area is removed from under the Treasury and Credit Administration department. The staffing level recommended for the new Enterprise Risk Management department is two to three FTEs.

4.4.2 Contract Administration and Procurement

This department is responsible for contract preparation, negotiation and oversight and the procurement of services and other resources the ERCOT organization may need.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Contract Administration and Procurement department appear to be adequate.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that this department currently has ten positions which include the Director, one Contract Manager, one Contract Administrator, one Contract Assistant, one Clerk, one Procurement Manager, two Procurement Specialists, one Contract Administrator Specialist, and one Data Entry Clerk.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this department recorded approximately 12,700 hours. This number of hours represents 12.2 FTEs. Two employees left this department during the time frame reviewed.

The Lawson time tracking tool illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees in this department was seven percent.

Future Situation:

The 2008 Staffing Summary shows that this department increases its staff from ten positions today to twelve positions in 2008. The 2008 organizational chart shows that the additional positions are a Contract Administrator and a Procurement Specialist.

The additional Contract Administrator and Procurement Specialist are requested to support the increased volume in contracting efforts inherent in the development and implementation of the Nodal Market.

In 2009, once the Nodal Market is operational it is estimated that the workload for this department will decrease and therefore the additional Contract Administrator and Procurement Specialist positions are planned to be eliminated.

As described in Section 2, it is R. W. Beck's opinion that Contract Administration and Procurement department be re-positioned to directly report to the CAO, which would reduce the overall number of positions within the Finance division by twelve in 2008.

Recommendation 4-3: Based on the current workload for the Contract Administration and Procurement department, it is R. W. Beck's opinion that 12 employees are needed to support the activities and responsibilities of this department.

4.4.3 Controller

This department is located within the Finance division and includes Accounting and Budget (A&B), and the Internal Control Management Program (ICMP). The A&B area is responsible for managing the budget, general accounting and payroll, among other accounting activities. ICMP is responsible for the overall management of the internal controls for the ERCOT organization.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Controller department appear to be adequate.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that this department has 20 positions, three of which are under ICMP and 17 are under A&B. The positions included in A&B are the CFO, Controller, Accounting Manager, Accounting Supervisor, four Specialists, three Accountants, Budget Manager, four Financial Analysts and one Assistant.

The positions included in the ICMP area are the Manager, Specialist and Administrator.

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A&B: The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the A&B area recorded over 16,000 hours. One employee from this department was also supporting the Program Management Office Planning, Quality, and Reporting area. The number of FTE employees calculated as necessary to support the hours worked is 18.7 FTEs. The Lawson time tracking tool shows that 19 employees recorded time under the A&B functional area, which shows that the two additional FTEs called for in the 2008 Staffing Summary have already been added as is described in the Future Situation description below.

The Lawson time tracking tool illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees was five percent.

ICMP: The Lawson system shows that time was recorded for only two employees. The number of hours recorded by these employees during the first six months of 2007 is over 2,000 hours. The number of FTEs calculated as necessary for this department based on the hours recorded is 2.1. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees was four percent. The percentage of overtime worked by the employees ranged from two percent to seven percent.

Future Situation:

A&B: The 2008 Staffing Summary shows that the A&B area increases its staff from 17 positions to 19 positions in 2008. This level of staffing more closely matches the currently observed workload in hours described above. The 2008 organizational chart shows that the additional positions are an Accountant and a Financial Analyst.

The request for the additional Accountant is due to the increase in the number of reconciliations and also due to the increase of transactions related to the internal control procedures that started in 2006. These tasks, which are being performed by a contractor will be performed by an entry level general Accountant.

The additional Financial Analyst is dedicated to support the financial activities related to the implementation of the Nodal Market, such as interacting with the Nodal Project Managers to help coordinate invoice processing and producing monthly financial information. This position will be eliminated once the Nodal Market is operational in 2009.

ICMP: The ICMP area shows no changes in staffing levels in 2008 and 2009. As described in Section 2, it is R. W. Beck's opinion that ICMP and Risk Management share common responsibilities. As the Preliminary Recommendation 2-8 describes, ERCOT should undertake an effort to clarify, re-organize and streamline its risk management related functions, which would include consolidating the ICMP work activities.

Recommendation 4-4: Based on the current workload for the Controller department, it is our opinion that 18 to 19 employees are needed to support the activities and responsibilities of the accounting and Budget (A&B) area.

As described in Section 2 of this report, the Internal Control Management Program (ICMP) and Risk Management departments share common responsibilities and could

be consolidated under the Enterprise Risk Management function. The staffing level for an integrated ICMP and Risk Management function would be a staff of five FTEs (three from ICMP and two from Enterprise Risk Management).

4.4.4 Program Management Office

Located within the Finance division, the Program Management Office (PMO) is responsible for the oversight of project management development and implementation within ERCOT.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Program Management Office department appear to be inappropriate for some areas.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that the PMO department has 11 pre-nodal positions, located in the Divisional Project Organization (DPO), Planning, Quality and Reporting, and Program Administration areas. The positions included in the PMO department are one Director, three Managers, one Project Manager, four Program Analysts, one Program Specialist and one Technical Specialist.

DPO: The 2008 Staffing Summary shows that this area has two pre-nodal positions. The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the DPO group recorded approximately 3,600 hours. During this time frame one employee left the organization. The number of FTE employees calculated as necessary to support the hours worked is 3.4 FTEs. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees was 15 percent. Overtime levels below ten percent are considered to be within normal ranges. As described in the Future Situation section, additional FTEs will be added to this area.

Planning, Quality and Reporting: The 2008 Staffing Summary shows that this area has five pre-nodal positions. The Lawson system shows that from January 1 to June 30, 2007, the employees in this area recorded over 5,500 hours. One employee from this area was also supporting the A&B area. The calculated number of FTEs necessary for this group based on the hours recorded is 5.3 FTEs. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees was three percent. The percentage of overtime worked by individual employees ranged from one percent to nine percent.

Program Administration: The 2008 Staffing Summary shows that this area has three pre-nodal positions. The Lawson system for the same period of time shows that almost 3,000 hours were recorded. During this time frame one employee left the organization. The calculated number of FTEs necessary to support the activities of this area based on the hours tracked is 2.9. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime worked by the employees was two percent. The percentage of overtime worked by individual employees ranged from one to ten percent.

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Future Situation:

DPO: The 2008 Staffing Summary shows that the DPO area increases its staff from two to six positions to handle projects that will support the Nodal Market Program development and implementation. In 2009, once the Nodal Market is operational, four positions are eliminated leaving the total staffing level for this area with two positions.

Planning, Quality and Reporting: The 2008 Staffing Summary shows an additional position which as the organizational charts illustrates, is a Program Analyst. The additional position is added to support project efforts related to the Nodal Market Program development and implementation; this position is eliminated in 2009 once the Nodal Market is operational.

Program Administration: The 2008 Staffing Summary and organizational chart shows one additional Data Entry Clerk for the Program Administration area, which remains in the organization 2009.

Recommendation 4-5: DPO: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that two to three FTEs would be adequate to support the work activities for this area.

Planning, Quality and Reporting: Based on the current workload for this area, it is our opinion that five to six FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of six FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to decrease sufficiently that five FTEs would be appropriate to support the work activities for this area.

Program Administration: Based on the current workload for this group, it is our opinion that three to four FTEs are needed to support the work activities and responsibilities for this area. The 2008 Staffing Summary shows a total of four FTEs in 2008. Once the Nodal Market is operational, the workload for this area is expected to remain stable; four FTEs appear to be the appropriate number to support the work activities for this area.

As explained in Section 2 of this report, R. W. Beck recommends that the PMO department be moved under the CAO.

4.5 General Counsel Division

The General Counsel division is responsible for providing legal support to the ERCOT organization. Government Relations and Communications are also located within the General Counsel division.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the General Counsel division appear to be adequate.*

Background**Pre-Nodal Situation:**

The 2008 Staffing Summary shows that the General Counsel division has 20 pre-nodal positions. The positions included in this division are one Vice-President, one Executive Assistant, three Assistant General Counsels, three Corporate Counsels, three Managers, one Document Control Analyst, two Legal Assistants, two Corporate Counsel Associates, two Paralegals, one External Relations Specialist, and one Communication Specialist.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this division recorded over 20,000 hours. During this time frame one employee left the organization. The number of FTE employees calculated as necessary to support the hours worked is 20.0 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was five percent. The percentage of overtime worked by individual employees ranged up to 23 percent.

Future Situation:

The 2008 Staffing Summary shows no staffing changes for this division in 2008 and 2009.

Recommendation 4-6: Based on the current workload for the General Counsel division, it is our opinion that 20 FTEs are needed to support the activities and responsibilities of this division. It is apparent this division is not heavily impacted by the Nodal Market Program development and implementation; therefore, we recommend that the staffing level for this division remain at 20 FTEs for 2008 and 2009.

4.6 Human Resources and Organizational Development Division

The Human Resources and Organizational Development (HR&OD) division supports ERCOT's personnel needs and is also responsible for supporting initiatives to drive the organization's effectiveness.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the HR&OD division appear to be adequate.*

Background**Pre-Nodal Situation:**

The 2008 Staffing Summary shows that the HR&OD has ten pre-nodal positions. The positions included in this division are one Vice-President, two Directors, one Human Resources Information System Manager, one Generalist, two Recruiters, one Assistant, and two Benefits Administrators.

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The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this division recorded approximately 11,500 hours. During this time frame three employees left the organization. The number of FTE employees calculated as necessary to support the hours worked is 10.9 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was nine percent. The percentage of overtime hours worked by individual employees ranges from two to 33 percent.

Future Situation:

The 2008 Staffing Summary shows one additional position in 2008 and 2009, which is an HR Recruiter.

Recommendation 4-7: Increase and maintain the staffing level of the HR&OD division from ten to 11 or 12 FTEs. The Lawson system indicates that employees in this division are already working the number of hours equivalent to 11 FTEs.

As described in Section 2 of this draft report, the HR&OD division should be located within the departments led by the CAO.

4.7 Internal Audit Division

The Internal Audit division reports to the Finance and Audit Committee of the Board and is responsible for internal audits related to ERCOT's work activities and operations. This division reports administratively to the CEO.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Internal Audit division appear to be adequate.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that Internal Audit has seven pre-nodal positions. The positions included in this area are one Director, one Supervisor, and five Auditors.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this division recorded over 7,000 hours. During this time frame three employees left the organization. The number of FTE employees calculated as necessary to support the hours worked is 6.9 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was six percent. The percentage of overtime hours worked by individual employees ranges from one to 15 percent.

Future Situation:

The 2008 Staffing Summary presents no staffing changes in the Internal Audit area in 2008 and 2009. This workload for this division will not increase by the development, implementation and operation of the Nodal Market.

Recommendation 4-8: Maintain the number of FTEs for the Internal Audit division at seven as presented in the 2008 Staffing Summary.

4.8 Facilities and Site Development Division

The Facilities and Site Development division supports ERCOT's needs related to facility development, maintenance, and health and safety coordination.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Facilities and Site Development division appear to be inadequate.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows that this division has 12 pre-nodal positions. The positions included in this division are one Director, one Manager, two Supervisors, two Technicians, two Analysts, one Health and Safety Coordinator, two Assistants, and one Shipping/Receiving Specialist.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this division recorded over 15,800 hours. During this time frame two employees left the organization. The number of FTE employees calculated as necessary to support the hours worked is 15.3 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was 15 percent. The percentage of time worked by individual employees ranges from one to 25 percent. Overtime levels below ten percent are considered to be within normal ranges, this division's overtime levels are substantially above normal ranges.

Future Situation:

The 2008 Staffing Summary shows 14 positions for this division in 2008 and a decrease of one position in 2009. The additional positions are a Facilities Assistant and a Facilities Technician which are needed to support the facility needs that are stemming from the Nodal Market Program development and implementation efforts. In 2009, once the Nodal Market is operating, the Facilities Technician position is eliminated.

Recommendation 4-9: Based on the current workload for the Facilities and Site Development division, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

4.9 Information & Physical Security Division

This Information Security and Physical Security division is responsible for ERCOT's security measures related to data and physical assets.

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Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Information and Physical Security division appear to be adequate.*

Background:

Pre-Nodal Situation:

The 2008 Staffing Summary shows that this division has 13 pre-nodal positions between the Information Security and Physical Security departments. The positions included in this division are two Managers, three Leads, one Training Specialist, three Security Analysts, two Security Architects, one Physical Security Supervisor and one Technician.

Information Systems Security: The 2008 Staffing Summary shows this department has ten pre-nodal positions. The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Information Security department recorded almost 11,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 10.5 FTEs. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was nine percent. The percentage of overtime hours worked by individual employees ranges up to 31 percent.

Physical Security: The 2008 Staffing Summary shows this department has three pre-nodal positions. The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Physical Security department recorded almost 3,500 hours. The number of FTE employees calculated as necessary to support the hours worked is 3.4 FTEs. The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was two percent. The percentage of time worked by individual employees ranges from one to 14 percent.

Future Situation:

Information Systems Security: The 2008 Staffing Summary shows 11 positions for the Information Security department in 2008 and a decrease of one position in 2009. The additional position is a Senior Security Operations Analyst needed to support the data security needs that are stemming from the Nodal Market Program development and implementation efforts. In 2009, once the Nodal Market is operating, this position is eliminated.

Physical Security: The 2008 Staffing Summary shows four positions for the Physical Security department in 2008 and a decrease of one position in 2009. The additional position is a Senior Physical Security Technician needed to support the physical security needs related to ERCOT's facilities that are stemming from the Nodal Market Program development and implementation efforts. In 2009, once the Nodal Market is operating, this position is eliminated.

Recommendation 4-10: Based on the current workload for the Information Systems Security department, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational,

the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

Based on the current workload for the Physical Security department, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this division. Once the Nodal Market is operational, the workload for this division is expected to decrease sufficiently to allow for a reduction of one to two FTEs.

4.10 Information Technology Division

The staffing assessment includes a review of all the departments within the Information Technology division which are:

- Application Services
- Infrastructure and Operations Services
- Technical Services Administration
- Enterprise Architecture

4.10.1 Application Services

The Applications Services department supports ERCOT's information technology application needs. Included within this department are the following business areas: Database Administration, Corporate Applications, Commercial Services, Energy and Market Management Systems (EMMS) Development, Enterprise Integration, and Enterprise Information Services.

Finding: *The overall staffing levels presented in the 2008 Staffing Budget Summary for the Application Services department appear to be adequate.*

Background

Pre-Nodal Situation:

EMMS Development: The 2008 Staffing Summary shows the EMMS Development area has seven pre-nodal positions, which are one Manager and six Application Engineers.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the EMMS Development area employees recorded approximately 10,500 hours. During this time period, two employees left the organization. The number of FTE employees calculated as necessary to support the hours worked is 10.1 FTEs. The Lawson system also shows that during the period from January 1 to June 30, 2007, the percentage of overtime hours worked by individual employees ranged up to seven percent. Additional FTEs are planned to be added in order to support the Nodal Market development and implementation. A number of additional FTEs may have already been added during the time period reviewed which would explain why the calculated number of FTEs is three FTEs higher.

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Enterprise Integration: The 2008 Staffing Summary shows that the Enterprise Integration area has six pre-nodal positions, which include one Manager, two Programmers, one Billing Application Analyst, one Billing Application Specialist and one TIBCO Developer.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Enterprise Integration area recorded over 6,500 hours. The number of FTE employees calculated as necessary to support the hours worked is 6.3 FTEs. The Lawson system shows that during the period from January 1 to June 30, 2007, the percentage of overtime hours worked by individual employees ranged up to one percent.

Enterprise Information Services: The 2008 Staffing Summary shows that the Enterprise Information Services area has 16 pre-nodal positions, which include one Manager, seven Developers, five Analysts, two Administrators, and one Architect.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, 15 employees in the Information Services area recorded over 15,000 hours. During this time period, five employees left ERCOT. The number of FTE employees calculated as necessary to support the hours worked is 14.6 FTEs. In regards to overtime, the Lawson system also shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was eight percent. The percentage of overtime hours worked by individual employees ranged up to 34 percent.

Commercial Services: The 2008 Staffing Summary shows that the Commercial Services area has 13 pre-nodal positions, which include one Manager and twelve Developers.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees in the Commercial Services area recorded over 14,500 hours. During this time period, one employee left ERCOT. The number of FTE employees calculated as necessary to support the hours worked is 14.0 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was one percent. The percentage of overtime hours worked by individual employees ranged up to six percent.

Corporate Applications: The 2008 Staffing Summary shows that the Corporate Applications area has 17 pre-nodal positions, which include one Manager, two Architects, eight Analysts, and six Developers.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees in the Corporate Applications area recorded over 17,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 16.6 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was four percent. The percentage of overtime hours worked by individual employees ranged up to 27 percent.

Database Administration: The 2008 Staffing Summary shows that the Database Administration area has eight pre-nodal positions, which include one Manager and seven Database Administrators.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees in the Database Administration area recorded over 9,500 hours. During this time period, four employees left ERCOT. The number of FTE employees calculated as necessary to support the hours worked is 9.2 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was seven percent. The percentage of overtime hours worked by individual employees ranges from one to 20 percent.

Future Situation:

EMMS Development: The 2008 Staffing Summary shows 17 positions in 2008 and a decrease of one position in 2009. The additional positions include four Applications Engineers and six Application Developers. The EMMS Development area will have new responsibilities related to the Nodal Market Program implementation due to the added complexity in the market systems, new functionalities and additional responsibilities for Network Model Management System (NMMS), CRR and Outage Scheduler. In 2009, once the Nodal Market is operating, one Application Developer position is eliminated.

Enterprise Integration: The 2008 Staffing Summary shows ten positions in 2008 and a decrease of one position in 2009. The additional positions include three TIBCO Developers and one Applications Analyst. The Enterprise Integration area will have new responsibilities related to the Nodal Market Program implementation. The group's applications in the past have focused on retail market registration and settlements and billing integration. Going forward, this group will also manage integration applications touching each of the Nodal systems (Energy Management System (EMS), Market Management System (MMS), NMMS, CRR, Credit Monitoring and Management (CMM) and Settlements and Billing). In 2009, once the Nodal Market is operating, one TIBCO Developer position is eliminated.

Enterprise Information Services: The 2008 Staffing Summary shows 16 positions in 2008 and a decrease of two positions in 2009. The additional positions include three Database Analysts. The Enterprise Information Services area provides data archiving, warehousing, business intelligence and other data services to ERCOT, the Market Participants and the PUCT. The additional positions will be designing, developing, implementing and supporting Nodal reports and extracts. In 2009, once the Nodal Market is operating, two Database Analyst positions are eliminated.

Commercial Services: The 2008 Staffing Summary shows 15 positions in 2008 and in 2009. The additional positions include three Application Developers. The Commercial Services area has new responsibilities related to the Nodal Market supporting Nodal Real Time Settlements and Invoicing, Reliability Unit Commitment, Day Ahead Settlements and Invoicing, Congestion Revenue Rights Invoicing, Credit Monitoring and Management System, Customer Relationship Management System, and Component Interface Specifications.

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Corporate Applications: The 2008 Staffing Summary shows 18 positions in 2008 and in 2009. The additional position includes one Web Developer. This area will also assume new responsibilities related to the Nodal Market Program in order to support major new systems such as the Sun Java System Identity Management, BMC Remedy Suite, Live Link Document Manager, Market Information System portal and MPIM (identity management for Market Participants).

Database Administration: The 2008 Staffing Summary shows ten positions in 2008 and nine in 2009. The additional positions include two Database Administrators. This area will also assume new responsibilities due to the Nodal Market Program related to supporting new databases such as the database for EMS, MMS, NMMS, CRR, Enterprise Integration Project (EIP) and Outage Scheduler. In 2009, once the Nodal Market is operating, one Administrator position is eliminated.

Recommendation 4-11:

EMMS Development: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 17/16 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Enterprise Integration: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Enterprise Information Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 19/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Commercial Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 14 to 15 FTEs, (to reach 15 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Corporate Applications: Based on the current workload for this area, it is our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is

expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Database Administration: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to reach ten/nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

4.10.2 Infrastructure & Operations Services

The Infrastructure Operations Services department includes the following business areas: System Engineering and Administration, Storage Resource Management, Network, Console Operations, Release Management, Commercial Operations, EMMS Production Support and the Divisional Project Organization (DPO).

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Infrastructure and Operations Services department appear to be inadequate in several areas.*

Background

Pre-Nodal Situation:

System Engineering and Administration: The 2008 Staffing Summary shows the System Engineering and Administration area has 19 pre-nodal positions, which includes one Manager, twelve Administrators, five Technicians and one Employee Access Coordinator.

The Future Situation section describes that additional FTEs will be added to this area, which may already have been incorporated during the time period reviewed. The Lawson time tracking tool shows that from January 1 to June 30, 2007, 23 employees in the System Engineering and Administration area employees recorded over 28,500 hours. During this time period, one employee left the area. The number of FTE employees calculated as necessary to support the hours worked is 27.5 FTEs. The Lawson system also shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by individual employees in this area was 23 percent. The percentage of overtime hours worked by the employees ranges from two to 83 percent, which would explain why the calculated number of FTEs is approximately eight FTEs higher. As previously mentioned, overtime levels below ten percent are considered to be within normal ranges and as observed the average overtime levels for this area are well above normal.

Storage Resource Management: The 2008 Staffing Summary shows that the Storage Resource Management area has six pre-nodal positions, which include one Manager, four Storage Administrators, and one Supervisor.

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The Future Situation section describes that additional FTEs will be added to this area, which may have been incorporated during the time period reviewed. The Lawson time tracking tool shows that from January 1 to June 30, 2007, the seven employees in the Storage Resource Management area recorded over 8,100 hours. The number of FTE employees calculated as necessary to support the hours worked is 7.8 FTEs. The Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees in this area was 11 percent. The percentage of time worked by individual employees ranges from two percent to 29 percent. High overtime levels would also help explain the difference between the number of FTEs working in this area and the FTEs calculated as necessary.

Network: The 2008 Staffing Summary shows that the Network area has 12 pre-nodal positions, which include one Manager, nine Administrators, one Analyst and one Engineer.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this area recorded over 13,800 hours. During this time period, one employee left this area. The number of FTE employees calculated as necessary to support the hours worked is 13.4 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was seven percent. The percentage of overtime hours worked by individual employees ranged up to 32 percent. High overtime levels would also help explain the difference between the number of FTEs working in this area and the FTEs calculated as necessary.

Console Operations: The 2008 Staffing Summary shows that the Console Operations area has 15 pre-nodal positions, which include eleven Console Operators and three Analysts. The Console Operations area has been integrated with the Commercial Operations area under one manager.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, thirteen employees recorded time under the Console Operations area and the employees in this area recorded over 12,500 hours. During this time period, one employee left this area. The number of FTE employees calculated as necessary to support the hours worked is 12.1 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the percentage of overtime hours worked by individual employees ranged up to five percent.

Commercial Operations: The 2008 Staffing Summary shows that the Commercial Operations area has 19 pre-nodal positions, which include 17 Analysts and one Application Support position. The Commercial Operations area has been integrated with the Console Operations area under one manager.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, fifteen employees recorded time under the Commercial Operations area and the employees in this area recorded almost 16,000 hours. During this time period, two employees left this area. The number of FTE employees calculated as necessary to support the hours worked is 15.3 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was 15 percent. The percentage of overtime hours worked by

individual employees ranges from one percent to 47 percent. As previously mentioned, overtime levels below ten percent are considered to be within normal ranges and as observed the average overtime levels for this area are above normal.

Release Management: The 2008 Staffing Summary shows that the Release Management area has six pre-nodal positions, which include one Manager, four Coordinators and one Technical Writer.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this area recorded over 6,300 hours. The number of FTE employees calculated as necessary to support the hours worked is 6.1 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was six percent. The percentage of overtime hours worked by individual employees ranges from two percent to 15 percent.

EMMS Production Support: The 2008 Staffing Summary shows that the EMMS Production Support area has 13 pre-nodal positions, which include one Manager, seven Engineers, four Analysts and one Lead EMMS Production Systems position.

The Future Situation describes that additional FTEs will be added to this area, which may have been incorporated during the time period reviewed. The Lawson time tracking tool shows that from January 1 to June 30, 2007, 17 employees recorded time under this area and the employees in this area recorded almost 17,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 16.3 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was two percent. The percentage of overtime worked by individual employees ranged up to 15 percent.

DPO: The 2008 Staffing Summary shows that the DPO area has three pre-nodal positions, which include three Project Managers.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in this area recorded almost 4,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 3.3 FTEs. In regards to overtime, the Lawson system shows that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees was seven percent. The percentage of overtime worked by individual employees ranged up to 14 percent.

Future Situation:

System Engineering and Administration: The 2008 Staffing Summary shows 23 FTEs in 2008 and a reduction of four FTEs in 2009. The additional FTEs include three Administrators and one Technician. The workload for the Systems Engineering and Administration area is driven by the building and development of all the servers required for the Nodal Market Program. Any maintenance work can not be completed during normal business operations and so maintenance projects are performed from Friday evenings to Monday mornings. Once the Nodal Market is operational the workload for this area may decrease somewhat since the servers for Nodal Market will have been completed; however, maintenance procedures will continue.

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Storage Resource Management: The 2008 Staffing Summary shows eight FTEs in 2008 and a reduction of one FTE in 2009. The additional FTEs include one Administrator and one Architect. The Storage Resource Management area's workload has increased due to the data volume ERCOT is experiencing. Last year the area handled 300 terabytes of data which has increased to 600 terabytes and is expected to reach 1064 terabytes (one petabyte) in 2009.

Network: The 2008 Staffing Summary shows 12 positions in 2008 and a reduction of two FTEs in 2009. The eliminated FTEs include a Network Analyst and an Administrator. This area is responsible for working with the Market Participants regarding network connections with them. In 2009, once the Nodal Market is operational, the workload for this area is expected to remain stable.

Console Operations: The 2008 Staffing Summary shows 13 FTEs in 2008 and 2009, which is a reduction of two FTEs when compared to the pre-nodal staff of 15 FTEs. This area includes the 24 x 7 Help Desk. The workload for this area also includes code writers to monitor the system. The workload for this area is expected to remain stable.

Commercial Operations: The 2008 Staffing Summary shows 19 FTEs in 2008 and 17 FTEs in 2009. This area is responsible for running the wholesale and retail systems and providing support to the Help Desk.

Release Management: The 2008 Staffing Summary shows seven FTEs in 2008 and 2009. Currently, this area handles an average of 240 software releases per year. In the Nodal Market, the area will be responsible for releasing approximately 1,300 to 2,400 systems in a period of approximately ten months.

EMMS Production Support: The 2008 Staffing Summary shows 18 FTEs in 2008 and 17 in 2009. This area is currently adding a new product suite that includes the functionalities from various vendors. EMMS releases can only occur when the market is not running.

DPO: The 2008 Staffing Summary shows four FTEs in 2008 and three in 2009. The position eliminated is a Project Manager.

Recommendation 4-12:

System Engineering and Administration: Based on the current workload for this area, it is our opinion that 27 to 28 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already is excessive when compared to the actual number of FTEs and overtime is at an average of 23 percent. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. This area will need approximately five additional FTEs in order to fulfill its responsibilities.

Storage Resource Management: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven or eight FTEs, (to

reach eight/seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Network: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to decrease, however, at this point it is not possible to validate whether a decrease of two or three FTEs, (to reach 10 FTEs in 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Console Operations: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The Console Operations area should be able to fulfill its responsibilities with the 13 FTEs it has budgeted for 2008 and 2009.

Commercial Operations: Based on the current workload for this area, it is our opinion that 15 to 16 FTEs are needed to support the activities and responsibilities of this area today. The Commercial Operations area should be able to fulfill its responsibilities with the 17 FTEs it has budgeted for 2009.

Release Management: Based on the current workload for this area, it is our opinion that six to seven FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether seven FTEs (to reach seven FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

EMMS Production Support: Based on the current workload for this area, it is our opinion that 16 to 17 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 18/17 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

DPO: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The workload for this area already requires three to four FTEs which matches the number of budgeted positions for 2008 and 2009.

4.10.3 Technical Services Administration

The Technical Services Administration department is located within the Information Technology division and is responsible for providing technical services support.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Technical Services Administration department appear to be adequate.*

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Background:

Pre-Nodal Situation:

The 2008 Staffing Summary shows the Technical Services Administration department has four pre-nodal positions, which includes One Manager, two Analysts, and one Business Specialist.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the Technical Services Administration employees recorded over 3,200 hours. The number of FTE employees calculated as necessary to support the hours worked is 3.2 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees in this department was five percent. The percentage of time worked by the individual employees ranges from one percent to 14 percent.

Future Situation:

For the Technical Services Administration department, the 2008 Staffing Summary shows the staffing level remains at four FTEs in 2008 and 2009. The workload for this department is expected to remain relatively stable.

Recommendation 4-13: Maintain the staffing level at four FTEs for the Technical Services Administration department.

4.10.4 Enterprise Architecture

The Enterprise Architecture department is currently supporting the efforts for the development and implementation of the Nodal Program.

Finding: *Insufficient information is available to assess the staffing levels for the Enterprise Architecture department.*

Background

Pre-Nodal Situation:

The 2008 Staffing Summary shows the Enterprise Architecture department has five pre-nodal positions, which includes One Manager and four Architects. The organizational chart for this department shows that it is under the Market Redesign Information Technology Program Director.

The Lawson time tracking tool shows three employees associated with this department and one of these employees left the department during the period from January 1 to June 30, 2007; therefore the Lawson time tracking tool data is not considered for this department, since it only reflects time for two employees.

Future Situation:

In 2008 the Staffing Summary shows three positions will be added to this department; the organization chart illustrates that the three positions correspond to Enterprise Architects. During 2008, it is expected that the workload for this department will

increase due to the development and implementation of the Nodal Market program. This department will be conducting activities such as design work and mapping the system in order to support the Nodal Market program development.

In 2009, once the Nodal Market is operational, one Enterprise Architect position will be eliminated.

Recommendation 4-14: At this point insufficient information is available to determine whether the Enterprise Architecture department will be appropriately staffed in 2008 and 2009.

4.11 Market Operations Division

The staffing assessment includes a review of both of the departments within the Market Operations division which are:

- Commercial Operations
- Market Services

4.11.1 Commercial Operations

The Commercial Operations department acts as the centralized hub for managing the retail electric transactions. Commercial Operations includes the following business areas: Settlement Metering, Energy Analysis and Aggregation, Settlements and Billing Operations, Retail Customer Choice, and Data Integrity.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Commercial Operations department appear to be inappropriate for several areas.*

Background

Pre-Nodal Situation:

Settlement Metering: The 2008 Staffing Summary shows that the Settlement Metering area has ten pre-nodal positions, which include One Manager, two Supervisors, four Analysts and three Operators.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the Settlement Metering area employees recorded over 8,100 hours, which includes the hours for two new employees. The number of FTE employees calculated as necessary to support the hours worked is 7.8 FTEs, which is impacted by the two new employees.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Settlement Metering area was two percent. The percentage of time worked by individual employees ranges from one percent to eight percent.

Energy Analysis and Aggregation: The 2008 Staffing Summary shows that the Energy Analysis and Aggregation area has ten pre-nodal positions, which include one Manager, two Supervisors, and seven Analysts.

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The Lawson time tracking tool shows that from January 1 to June 30, 2007, the eleven employees in the Energy Analysis and Aggregation area recorded over 11,800 hours. The number of FTE employees calculated as necessary to support the hours worked is 11.4 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Energy Analysis and Aggregation area was three percent. The percentage of overtime worked by individual employees ranged from one to eight percent.

Settlements and Billing Operations: The 2008 Staffing Summary shows that the Settlements and Billing Operations area has 19 pre-nodal positions, which include one Manager and 18 Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Settlements and Billing Operations area recorded over 13,000 hours. Five of these employees are also supporting the Nodal Market Program implementation and development. The number of FTE employees calculated as necessary to support the hours worked is 12.5 FTEs. In addition, contract labor may be used to support the current Zonal work activities in this area.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the percentage of time worked by individual employees ranged up to four percent.

Retail Customer Choice: The 2008 Staffing Summary shows that the Retail Customer Choice area has 22 pre-nodal positions, which include one Manager, three Supervisors, 15 Analysts, and three Transaction Supports.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Retail Customer Choice area recorded over 22,400 hours. The number of FTE employees calculated as necessary to support the hours worked is 21.6 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Retail Customer Choice area was three percent. The percentage of overtime worked by individual employees ranges from one percent to 17 percent.

Data Integrity and Administration: The 2008 Staffing Summary shows that the Data Integrity and Administration area has six pre-nodal positions, which include one Manager and five Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Data Integrity and Administration area recorded over 5,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 4.9 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was eight percent. The percentage of overtime worked by individual employees ranges from one to 20 percent.

Future Situation:

Settlement and Metering and Energy Analysis and Aggregation: The 2008 Staffing Summary shows that the staffing levels for the Settlement Metering and the Energy Analysis and Aggregation areas will both remain at ten positions in 2008 and 2009.

A discrepancy exists between the ten FTEs listed in the 2008 Budget Summary for the Energy Analysis and Aggregation area and the actual number of employees that the Lawson time tracking tool shows recorded time under this area.

Settlement and Billing Operations: The 2008 Staffing Summary shows that four Analyst positions will be added in 2008. The workload increase for this area is related to the Nodal Market Program. Once the Nodal Market is operational, there will be a Day Ahead Market, a Real Time Energy Market, and CRR transactions, which are all new to the activities for ERCOT that the Settlement and Billing Operations area will have to support. This area will have to continue to produce invoices and statements for market participants which in the Nodal Market are produced on a daily and weekly basis. In 2009, once the Nodal Market has been implemented, the Staffing Summary indicates one Analyst position is eliminated. There is concern that this area will not be able to handle the increased workload derived from the Nodal Market operations with 22 FTEs in 2009.

Retail Customer Choice: The 2008 Staffing Summary and organizational chart indicate that one Retail Data Analyst is eliminated. In 2009, an additional Retail Analyst position is eliminated and two positions are transferred to other departments (Wholesale Client Services and Data Integrity and Administration), reducing the staffing levels of the Retail Choice area to 18 in 2009. This area is not impacted by the Nodal Market and is expected to continue to improve its business operations which allow an overall reduction of four positions.

Data Integrity and Administration: The Staffing Summary shows that in 2008 one additional position is added to this area. In 2009 one employee is transferred into this area from the Retail Customer Choice area, which sets the staffing level for the Data Integrity and Administration area at eight in 2009. The workload for this area has increased due to the volume of data that ERCOT is now handling and will handle in the future. Comments obtained reflect that ERCOT's volume of data may have increased tenfold. This area manages that data flow and integrity from one system to another, such as the data flow from Siebel to Loadstar to the data warehouse.

Recommendation 4-15:

Settlement Metering: Based on the current workload for this area, it is our opinion that seven to eight FTEs are needed to support the activities and responsibilities of this area today. During the time period assessed (January 1 to June 30, 2007), two employees joined this area. Once the Nodal Market is operational, the workload for this area is expected to remain stable, however at this point it is not possible to validate whether an addition of two to three FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.

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Energy Analysis and Aggregation: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to remain stable; however at this point it is not possible to validate whether a reduction of one or two FTEs (to reach 10 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary) will provide the appropriate staffing number for this area to fulfill its responsibilities.

Settlement and Billing Operations: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine to ten additional FTEs, (to reach 23/22 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Retail Customer Choice: Based on the current workload for this area, it is our opinion that 21 to 22 FTEs are needed to support the activities and responsibilities of this area today. As described in the Future Situation section, this area will not be impacted by the transition to the Nodal Market. This area has also improved certain business processes. R. W. Beck recommends reducing the staffing levels for this area as presented in the 2008 Staffing Summary to 21 FTEs in 2008 and 18 FTEs in 2009.

Data Integrity and Administration: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether two to three additional FTEs, (to reach seven/eight FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

4.11.2 Market Services

The Market Services department is responsible for providing support to the wholesale clients such as Qualified Scheduling Entities (QSEs), processing system change requests regarding protocol revisions, managing retail transactions and testing systems to ensure they support the market operations.

The Market Services department includes the following business areas: Market Rules, DPO, Retail Client Service and Retail Market Analysis, Wholesale Client Services, and Market Operations Testing.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Market Services department appear to be inadequate.*

Background

Pre-nodal Situation:

Market Rules: The 2008 Staffing Summary shows the Market Rules area has eight pre-nodal positions, which include One Manager, four Analysts, one Coordinator and two Specialists.

The Future Situation section describes that an additional FTE is to be added to the Market Rules area. The Lawson time tracking tool shows that from January 1 to June 30, 2007, the ten employees recorded in this area recorded over 10,400 hours. The number of FTE employees calculated as necessary to support the hours worked is 10.1 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Market Rules area was three percent. The percentage of overtime worked by individual employees ranged up to seven percent.

DPO: The 2008 Staffing Summary shows the DPO area has 13 pre-nodal positions, which include One Manager, six Analysts, four Project Managers, one Liaison and one Coordinator.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, twelve employees recorded time under the DPO area. The Manager position is vacant at the time this analysis was conducted. These twelve employees recorded almost 12,000 hours. The number of FTE employees calculated as necessary to support the hours worked is 11.5 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the DPO area was two percent. The percentage of overtime worked by individual employees ranged up to eight percent.

Retail Client Service and Retail Market Analysis: The 2008 Staffing Summary shows the Retail Client Service and Retail Market Analysis area has 13 pre-nodal positions, which include One Manager, two Supervisors, eight Account Managers, and two Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Retail Client Services and Market Analysis area recorded over 12,700 hours. During this time period one employee left the area. The number of FTE employees calculated as necessary to support the hours worked is 12.3 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was two percent. The percentage of time worked by individual employees ranged up to 13 percent.

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Market Operations Testing: The 2008 Staffing Summary shows the Market Operations Testing area has 22 pre-nodal positions, which include one Manager, three Supervisors, four Lead Testers, ten Specialists, and four Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Market Operations Testing area recorded over 20,700 hours. During this time period one employee left the area. The number of FTE employees calculated as necessary to support the hours worked is 20.0 FTEs. Some of the employees did not report their hours for various activities which impacts the total number of hours recorded.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was two percent. The percentage of time worked by individual employees ranged up to 19 percent.

Wholesale Client Services: The 2008 Staffing Summary shows the Wholesale Client Services area has 15 pre-nodal positions, which include one Manager, two Supervisors, nine Account Managers, and three Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, the employees in the Wholesale Client Services area recorded almost 15,000 hours. During this time period one employee left the area. The number of FTE employees calculated as necessary to support the hours worked is 14.4 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was five percent. The percentage of overtime worked by the employees ranged up to 34 percent.

Future Situation:

Market Rules: The 2008 the Staffing Summary shows that the staffing levels for the Market Rules area has nine positions in 2008 and 2009. One Stakeholder Services Specialist is added to manage increased workload. A discrepancy exists regarding the number of FTEs listed in the 2008 Budget Summary (eight FTEs pre-nodal positions and nine FTEs in 2008) and the number of FTEs (ten FTEs) that recorded hours worked for the Market Rules area.

DPO: The 2008 Staffing Summary and organizational charts show that in 2008 four positions are added (three Market Redesign Managers and one Project Manager), while one Business Analyst position is eliminated. The four positions are added to help support the Nodal Market program development and implementation. In 2009, once the Nodal Market is operational, these positions will be eliminated, as well as a Market Liaison position. A Project Analyst and a Web Content Coordinator are transferred to the Data Integrity and Administration area and the Wholesale Client Services area correspondingly.

Retail Client Services and Retail Market Analysis: The 2008 Staffing Summary illustrates that no staffing level changes are expected to impact this area. Workload is expected to remain stable in 2008 and 2009.

Market Operations Testing: The 2008 Staffing Summary and the organizational chart, shows that eight positions will be added in 2008. Seven of these positions correspond to Testing Supervisors, Specialists and Analysts and are all related to testing business applications related to the development and implementation of the Nodal Market program, such as applications related to Congestion Revenue Rights. An additional specialist position is added to support security testing. In 2009, once the Nodal Market is operational, three Testing positions are eliminated.

Wholesale Client Services: The Staffing Summary shows that in 2008 four additional positions (one Analyst, one Training Coordinator, one Training Specialist and one Training Administrator) are added to this area and are maintained in 2009. Of these four positions, two are FTEs transferred from other areas. This area will experience and increase in workload driven by the Nodal Market. For example, this area manages the Market Participant registration and it is anticipated that in the Nodal Market the number of "non-standard" market participants will increase.

Recommendation 4-16:

Market Rules: Based on the current workload for this area, it is our opinion that nine to ten FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether nine or ten FTEs, (to reach the nine FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

DPO: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether four to five additional FTEs, (to reach 16 FTEs in 2008), is the appropriate staffing number for this area to fulfill its responsibilities in 2008. In addition, at this point it is not possible to validate whether a reduction of five FTEs in 2009, once the Nodal Market is operational (as presented in the 2008 Staffing Summary) is the appropriate staffing level for this area to fulfill its responsibilities.

Retail Client Service and Retail Market Analysis: Based on the current workload for this area, it is our opinion that 12 to 13 FTEs are needed to support the activities and responsibilities of this area today. R. W. Beck recommends maintaining the staffing levels of this area at 13 FTEs in 2008 and 2009.

Market Operations Testing: Based on the current workload for this area, it is our opinion that 20 to 21 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 30/27 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.

Wholesale Client Services: Based on the current workload for this area, it is our opinion that 14 to 15 FTEs are needed to support the activities and responsibilities of

this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 19 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

4.12 System Planning Division

The System Planning division is responsible for developing system forecasts, future load demand, future generation needs and transmission planning. The System Planning division is composed of the following departments: Transmission and Regional Planning, Congestion Management and Regulatory Support.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the System Planning division appear to be adequate.*

Background

Pre-nodal Situation:

Transmission and Regional Planning: The 2008 Staffing Summary shows the Transmission and Regional Planning department has 24 pre-nodal positions, which include one Director, three Managers, and 20 Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this department recorded almost 23,000 hours. During this time frame, two employees left the department. The number of FTE employees calculated as necessary to support the hours worked is 22.1 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by employees from the Transmission and Regional Planning department was five percent. The percentage of overtime worked by individual employees ranged up to 20 percent.

Congestion Management: The 2008 Staffing Summary shows the Congestion Management department has two pre-nodal positions, which include one Director and one Analyst.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees recorded over 3,500 hours. The number of FTE employees calculated as necessary to support the hours worked is 3.4 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Congestion Management department was five percent. The percentage of time worked by individual employees ranged up to 11 percent.

Regulatory Reporting: The 2008 Staffing Summary shows the Regulatory Reporting department has four pre-nodal positions, which include one Vice-President and three Analysts.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees recorded over 4,500 hours. During this time frame, one employee left the department. The number of FTE employees calculated as necessary to support the hours worked is 3.9 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Regulatory Reporting department was four percent. The percentage of time worked by individual employees ranged up to seven percent.

Future Situation:

Transmission and Regional Planning: The 2008 Staffing Summary shows that the staffing level for the Transmission and Regional Planning department will be 26 positions in 2008 and 2009. The increase in two FTEs is driven by the Competitive Renewable Energy Zones (CREZ) process which is expected to increase the number of wind generation interconnections in the ERCOT region. The additional FTEs will be involved in conducting long-term system assessments and studies to support answers questions from the Texas Regional Entity (TRE) concerning National Electric Reliability Corporation (NERC) requirements.

Congestion Management: The 2008 Staffing Summary and organizational charts show that in 2008 five FTEs are added (three Engineers and two Analysts). In the Nodal Market, the CRR system and business processes is new and four FTEs are added to support the CRR business activities. Two of the CRR Engineers will be responsible for case building, and the Analyst and Engineer will be responsible for the CRR auction and allocation administration. In 2009, the staffing level for this department does not change.

Regulatory Reporting: The 2008 Staffing Summary illustrates that no staffing level changes are expected to impact this area. Workload is expected to remain stable in 2008 and 2009.

Recommendation 4-17:

Transmission and Regional Planning: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities related to an increase in wind interconnections as described in the Future Situation, however at this point it is not possible to validate whether three to four additional FTEs, (to reach 26 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

Congestion Management: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities related to the CRR transaction process, however at this point it is not possible to validate whether three to four additional FTEs, (to reach seven FTEs in 2008 and 2009 as presented in the 2008

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Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Regulatory Reporting: Based on the current workload for this area, it is our opinion that three to four FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R. W. Beck recommends maintaining the staffing level of this department at four FTEs as presented in the 2008 Staffing Summary.

As described in Section 2 of this report, R. W. Beck recommends consolidating the Regulatory Reporting with the Operations Standards department under the COO, since they share responsibilities for compliance between ERCOT operating guidelines and standards promulgated by the NERC.

4.13 System Operations Division

The staffing assessment includes a review of all the departments within the System Operations division which are:

- Operating Standards
- Grid Operations
- Wholesale Market Operations

4.13.1 Operating Standards

The Operating Standards department is responsible for ensuring that systems operations are in compliance with NERC requirements. In addition, members of this department represent ERCOT in NERC teams. This department works closely with the Regulatory Reporting department and also interfaces with the Internal Audit department. In Section 2 of this report, R. W. Beck recommends consolidating the Regulatory Reporting and Operations Standards department under the COO.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Operating Standards department appear to be adequate.*

Background:

Pre-nodal Situation:

The 2008 Staffing Summary shows the Operating Standards department has two pre-nodal positions, which include one Support Assistant and one Engineer/Analyst.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this department recorded over 2,200 hours. The number of FTE employees calculated as necessary to support the hours worked is 2.1 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Operating Standards department was seven percent. The percentage of overtime worked by individual employees ranges from one to 13 percent.

Future Situation:

The 2008 the Staffing Summary shows that the staffing levels for the Operating Standards department increases to four FTEs in 2008 and 2009. The workload for this area is expected to increase due to the new NERC requirements and the tasks ERCOT needs to perform in order to comply with these requirements.

Recommendation 4-18: Based on the current workload for Operating Standards, it is our opinion that two to three FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with NERC requirements, however at this point it is not possible to validate whether one to two additional FTEs, (to reach four FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

In Section 2 of this report, R. W. Beck recommends consolidating the Operating Standards department and the Regulatory Reporting since they share common responsibilities to conduct work activities in support of NERC requirements, under the COO.

4.13.2 Grid Operations

The Grid Operations department is responsible for operating the electric grid in the ERCOT region. The Grid Operations department includes the following areas: DPO and Operator Training, Operations Planning and Engineering, Advanced Network Applications, Outage Coordination, and System Operations.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Grid Operations department appear to be inadequate.*

Background**Pre-nodal Situation:**

DPO and Operator Training: The 2008 Staffing Summary and organizational chart show the DPO and Training area has 13 pre-nodal positions, which include one Manager, one Supervisor, two Project Managers, one Analyst, two Engineers, four Specialists, one Coordinator, and one Administrator.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this department recorded over 14,100 hours. During this time frame, two employees left the area. The number of FTE employees calculated as necessary to support the hours worked is 13.6 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the DPO and Operator Training area was four percent. The percentage of time worked by individual employees ranged up to 28 percent.

Operations Support, Planning and Engineering, Advanced Network Applications, and Outage Coordination: The 2008 Staffing Summary and organizational chart show the Operations Planning and Engineering and Outage

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Coordination area has 34 pre-nodal positions, which include one Manager, three Supervisors, nine Coordinators, 20 Engineers, and one Assistant. Additionally, five FTEs are included for the Advanced Network Applications functional area.

The Future Situation describes that additional FTEs will be added to this area, which helps explain the increase in FTEs when compared to the pre-nodal staffing level. The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this area recorded over 36,300 hours. During this time frame, two employees left the area. The number of FTE employees calculated as necessary to support the hours worked is 35.0 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was four percent. The percentage of time worked by individual employees range up to 22 percent.

Systems Operations: The 2008 Staffing Summary and organizational chart show the Systems Operations area has 50 pre-nodal positions, which include one Manager, six Supervisors, 42 Operators, and one Assistant.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, 57 employees from this area recorded over 56,400 hours. During this time frame, two employees left the area. The number of FTE employees calculated as necessary to support the hours worked is 54.3 FTEs. A discrepancy exists between the number of FTEs listed in the 2008 Budget Summary and organizational charts (50 FTEs) and the number of employees (57) that recorded their hours worked under this area.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from this area was four percent. The percentage of time worked by individual employees ranged up to 23 percent.

Future Situation:

DPO and Operator Training: The 2008 the Staffing Summary shows that the staffing levels for the DPO and Operator Training area has 13 positions in 2008 and 2009. The workload for this area is expected to remain stable during these years.

Operations Support, Planning and Engineering, Advanced Network Applications, and Outage Coordination: The 2008 Staffing Summary and organizational charts show that in 2008 nine positions are added (two Outage Coordinators, five Engineers, one Supervisor, and one Analyst). The increase in staffing levels is driven by the Nodal Market Program implementation and development. For example, in Operations Support, an analyst is added to review and revise the operating procedures necessary for Nodal operations. Once the Nodal Market is operational, this position is eliminated. The Outage Coordination area is adding two Coordinators to support the Nodal effort. Once the Nodal Market is operational, it is estimated that one Coordinator position will be eliminated. The Operations Planning area conducts activities such as unit testing, ancillary services requirements and qualifications testing. Once the Nodal Market is operational, these activities will be exposed to additional requirements. The Operations Planning area is

adding one Engineer to support the Nodal Market program development and implementation.

The Advance Network Applications area is responsible for the State Estimator and real time contingency analysis. Once the Nodal Market is operational, the requirements for the State Estimator increase and become more stringent. This area is adding two positions to support the Nodal Market program needs. The Operations Engineering area is responsible for supporting the Control Room, which once the Nodal Market is operational, will go to a 7 by 24 schedule. Two positions will be added in 2008 to support the Nodal Market development efforts. Once the Nodal Market is operational, one of these positions is eliminated. The total number of positions for the Operations Support, Planning and Engineering and Outage Coordination area in 2009 is 39 positions, with seven FTEs for the Advanced Network Applications functional area.

System Operations: The 2008 Staffing Summary shows that the staffing levels for this area remain at 50 FTEs, with six Operator positions being eliminated in 2009. These operator positions are eliminated when the Nodal Market operations begin because the new system is considered to be more efficient and therefore allows a reduction in staffing levels.

Recommendation 4-19:

DPO and Operator Training: Based on the current workload for this area, it is our opinion that 13 to 14 FTEs are needed to support the activities and responsibilities of this area today. The work activities for this department are expected to remain stable in 2008 and 2009. R.W. Beck recommends maintaining the staffing level for this area at 13 FTEs as presented in the 2008 Staffing Summary.

Operations Support, Planning and Engineering, Advanced Network Applications, and Outage Coordination: Based on the current workload for this area, it is our opinion that 43 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether one additional FTEs in 2008 and a reduction of 4 FTEs in 2009, (to reach 43/39 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

Systems Operations: Based on the current workload for this area, it is our opinion that 54 to 55 FTEs are needed to support the activities and responsibilities of this area today. Greater efficiencies are expected to be gained once the system implemented to support the Nodal Market is operational, which would allow a reduction in work force. However, at this point it is not possible to validate whether 50 FTEs, as presented in the 2008 Staffing Summary, is the appropriate staffing number for this area to fulfill its responsibilities.

4.13.3 Wholesale Market Operations

The Wholesale Market Operations department is responsible for producing market operations reports, real-time operation activity support, market operations systems testing, market monitoring, demand response tasks, network modeling and market design and development. This department is composed of the Market Operations and the Network Modeling areas.

Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Wholesale Market Operations department appear to be adequate.*

Background

Pre-nodal Situation:

Market Operations: The 2008 Staffing Summary shows the Market Operations area has 15 pre-nodal positions, which include 11 Analysts, three Market Supports and one Assistant.

As the Future Situation describes, additional FTEs will be added to this area, which helps explain the difference between the number of pre-nodal positions and the number of employees that recorded time during the time period reviewed. The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this department recorded over 23,000 hours. During this time frame, one employee left the organization. The number of FTE employees calculated as necessary to support the hours worked is 22.2 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Market Operations was two percent. The percentage of overtime worked by individual employees ranged up to nine percent.

Network Modeling: The 2008 Staffing Summary shows the Network Modeling area has 11 pre-nodal positions, which include one Supervisor, seven Analysts, two Specialists, and one Coordinator.

The Lawson time tracking tool shows that from January 1 to June 30, 2007, employees from this department recorded over 12,000 hours. During this time frame, one employee left the area. The number of FTE employees calculated as necessary to support the hours worked is 11.6 FTEs.

The Lawson time tracking tool also illustrates that during the period from January 1 to June 30, 2007, the average of overtime hours worked by the employees from the Network Modeling area was three percent. The percentage of overtime worked by individual employees ranged up to 12 percent.

Future Situation:

Market Operations: The 2008 the Staffing Summary shows that the staffing levels for the Market Operations has 24 positions in 2008; two positions are added to support the Day Ahead Market, two to support Real-Time Operations and the Reliability Unit Commitment, two to support Market Analysis, two to support Market Operations and one Manager. The workload for this area is expected to increase due to the Nodal

Market program. For example, currently this area is responsible for price analysis and corrections; there may be up to four prices in each interval (96 intervals in one day). In the Nodal Market, the number of intervals will increase since the intervals will change from every 15 minutes to every five minutes, which also means that the number of prices increases. In 2009, the Staffing Summary shows that three positions are eliminated once the Nodal Market is operational.

Network Modeling: The 2008 Staffing Summary and organizational charts show that in 2008 three positions are added (one Coordinator, one Specialist, and one Analyst). This area is currently involved in developing a time-based network model which will provide information about changes and updates to the grid in the future. Today the network model has to be updated daily and is not able to present future scenarios. The development of the time-based network model requires significant levels of information regarding future scenarios. In 2009, once the network model is developed, the Specialist position is eliminated.

Recommendation 4-20:

Market Operations: Based on the current workload for this area, it is our opinion that 22 to 23 FTEs are needed to support the activities and responsibilities of this area today. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, however at this point it is not possible to validate whether 24 FTEs in 2008 and 21 FTEs in 2009 (as presented in the 2008 Staffing Summary), is appropriate for this area to fulfill its responsibilities.

Network Modeling: Based on the current workload for this area, it is our opinion that 11 to 12 FTEs are needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with the development and implementation of the time-based network model, however at this point it is not possible to validate whether one to two additional FTEs, (to reach 14/13 FTEs in 2008 and 2009 as presented in the 2008 Staffing Summary), is the appropriate staffing number for this area to fulfill its responsibilities.

4.14 Staffing Levels during the Transition to the Nodal Market

Finding: *Staffing levels and the number of contract workers may be insufficient during the transition period from Zonal to Nodal Market operations in 2009.*

Background: The staffing levels presented in the 2008 Staffing Summary indicate that the number of ERCOT employees will increase from 593 in a pre-nodal situation to 709 in 2008. The staffing level increase in 2008 is driven by the requirement for the Nodal Market program to be implemented and “go live” in January 2009. Contractors have been hired to support the Nodal Market program development and implementation. As of August 2007, approximately 350 contractors were supporting this initiative.

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The current contracts for contract labor indicate that the number of contractors is expected to decrease in 2008, 2009, once the Nodal Market is operational. At the same time, the number of FTEs drops from 709 in 2008 to 643 in 2009. Figure 4-1 illustrates the number of FTEs and contract workers retained under Staff Support and Defined Deliverables type of contracts.

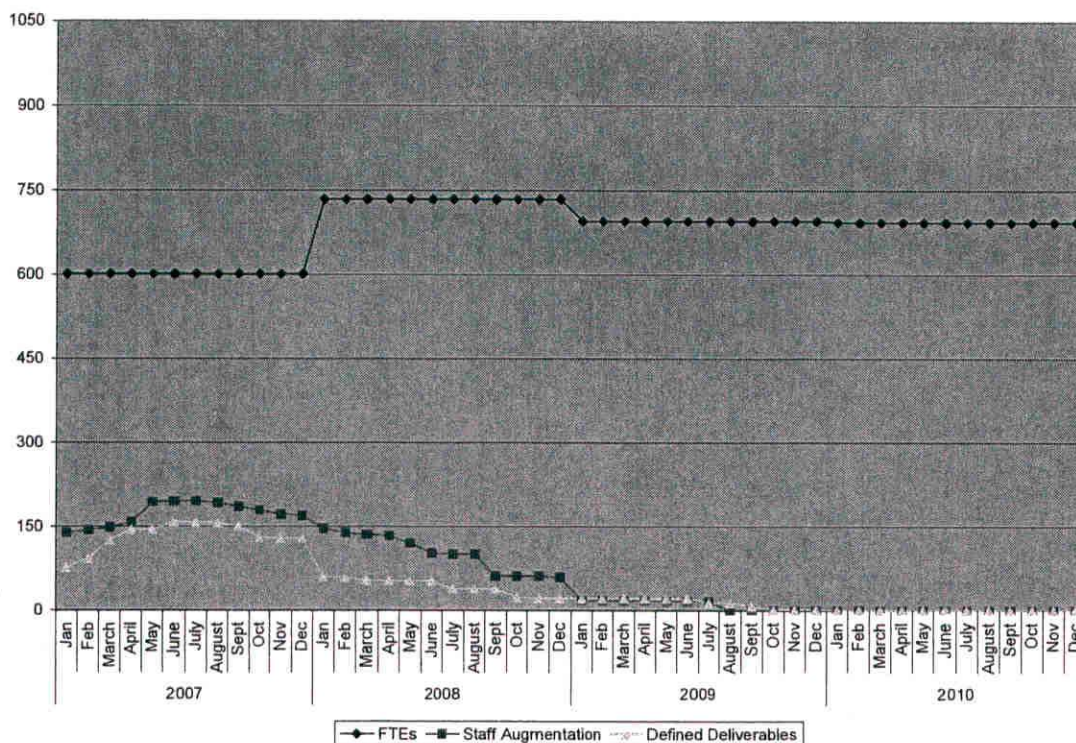


Figure 4-1: Number of FTEs and contract workers retained under Staff Support and Defined Deliverables type of contracts.

Once the Nodal Market goes “live” in 2009, ERCOT will still be experiencing a transition period where additional support may be needed to effectively and efficiently perform market activities.

Recommendation 4-21: ERCOT should analyze the contract resources necessary for this critical period following initiation of the Nodal Market. A budget adjustment should be made to account for the appropriate number of and skills for additional staff above the number currently included in the 2008 budget.

4.15 Human Resources Strategy

This section reviews ERCOT’s approach to staffing, contract labor, recruitment and retention practices, and workload management.

Finding: *ERCOT needs an integrated Human Resource (HR) strategy to attract and retain key employees.*

Background: The Human Resources (HR) strategy at ERCOT addresses many of the key components to attracting and retaining qualified personnel, which are described in the Employee Corporate Standards Manual effective as of April 1, 2007. The Employee Corporate Standard Manual provides new hires a better understanding of ERCOT's philosophy and presents the HR policies and procedures. The Employee Corporate Standards Manual is a comprehensive and well-designed document.

This section addresses various human resources strategy components defined in the Employee Corporate Standards Manual and other documents and offers suggestions for improvement.

Many of the positions at ERCOT require specific technical and electric industry expertise which increases the challenges of finding qualified employees. The primary responsibilities of the Director of Human Resources and Organizational Development (HR & OD) are recruitment and employee relations. The Director of HR & OD is supported by two employees who focus on recruiting and management of contract recruiters to supplement the increased staffing needs during the Nodal Project. This structure has reduced the number of openings from 106 positions in June 2006 to 59 positions in July 2007.

In July 2007, the HR&OD division published ERCOT's Recruiting Strategy which provides the guiding principles to address the organization's increased staffing demands due to business challenges. The Recruiting Strategy is well defined and provides the guiding principles for prioritizing jobs, recruitment accountability and responsibility, salary definition, candidate search timelines, primary sourcing tools and recruitment methods. These guidelines also describe the benefits ERCOT has to offer employees, the obstacles to recruitment and the 2007 goals with corresponding metrics such as time to fill position, hiring source, diversity, and termination report with exit survey.

The Recruitment Strategy shows that the HR&OD division fully understands the obstacles to recruiting qualified employees and has developed both passive and active recruiting methods. One major obstacle is that ERCOT faces strong competition for limited employee resources. Comments provided during various interviews illustrate that, for certain positions, candidates may prefer to go elsewhere where they may be offered stock options and bonus plans.

ERCOT is also faced with challenges to retain qualified employees in key positions. In 2006, ERCOT's turnover rate was 11.1 percent. A survey conducted by Hay Consultants in 2006 regarding Independent System Operators (ISO) turnover rates shows that ERCOT's turnover rate is above the average for the group (10 percent).

Table 4-2
Turnover Rate

ISO #	1	2	ERCOT	4	5	6
2005	9%	6.5%	10%	8.6%	6.05%	12.8%
2006	14%	7.9%	11%	9.4%	7.31%	11.6%

Source: ERCOT documents – Hay Consultants ISO Turnover Survey, November 2006

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The current turnover rate for ERCOT is close to the group's average and not considered to be a major concern. Turnover rates for ISOs overall have increased significantly.

Compensation is an aspect that directly impacts an organization's ability to attract and retain personnel. In 2006, Mercer Human Resource Consulting conducted an update to the 2005 compensation study of ERCOT's compensation practices and proposed a new base pay structure.

Mercer's assessment of ERCOT's base pay indicated the following:

- On average, base pay for the benchmark sample of jobs is approximately 3.2 percent below the market median for the Taylor Control Center (TCC)
- Average base pay for jobs in Administrative Support, Compliance, Legal, and Market Services is more than ten percent below the market median
- Average base pay for jobs in Internal Audit and Corporate Security, Facility and Safety is more than ten percent above the market median
- Individual pay levels are somewhat dispersed
- Twenty two percent of the benchmark employees fall outside a typical market competitive range
- ERCOT's competitive positions have not changed since the 2005 study possibly due to new hires at a higher base salary which are more market competitive and internal movement resulting in increased base salaries for some incumbents.

In 2007, ERCOT adopted the Compensation Administration Guidelines which outlines the administrative policies to manage employee compensation. These guidelines are intended to attract, retain and motivate high performing employees, drive behaviors that support ERCOT's strategic business objectives, provide externally competitive and internally equitable pay through fair and consistent administration and differentiate and reward employees for their contributions.

R. W. Beck reviewed the Compensation Administration Guidelines to better understand ERCOT's compensation philosophy and process for managing employee compensation. Overall these guidelines seem well defined. The base salary structure provides pay range information for all positions below the executive level. The structure consists of 17 pay ranges and each job is assigned to a grade based on the competitive market pay practices for the position. The pay ranges provide for a maximum pay level that is 44 percent to 67 percent above the minimum to provide sufficient flexibility for managers to differentiate individual pay levels based on proficiency in the job and performance. Individual increases are considered annually or, in exceptional cases, during interim periods. ERCOT's Compensation Administration Corporate Standard states that salary adjustments are not to be discussed during the employee performance review, in order to allow more time to the discussion of performance. Salary adjustments are based on merit, current market levels and internal equity.

The Compensation Administration Guidelines also provide for off-cycle increases in the event market conditions require that increases be granted when ERCOT is at risk of losing employees with key skills.

R. W. Beck did not review ERCOT's salary structure to see whether the salary ranges are competitive with the market. The review was not a part of the scope of work for this assignment.

ERCOT also has a Variable Compensation Plan (VCP) applicable to Officers, Directors and Managers which is linked to the strategic and fiscal-year planning processes. The objective of the plan is to focus participants on achieving ERCOT's goals, align Company, Division and Individual Performance measures, reward management team performance, ensure competitive total compensation rates to attract and retain key talent.

Pay for performance are mechanisms used by organizations to recognize and reward employees for good performance. ISO New England, for example, has a performance incentive plan where exempt employees, depending on their grade level, are eligible to earn up to ten percent of 16 percent of their annual salary based on the individual performance and corporate performance. Non-exempt employees are eligible to earn up to 6.5 percent of their annual salary based on the same performance criterion.

Employee recruitment and retention is impacted by other factors in addition to compensation, such as benefits, career development, succession planning and rewards and recognition.

Benefits:

ERCOT offers benefits plans that are comparable to those found at other organizations which include welfare plans, flexible spending accounts, short-term and long-term disability plans, sick leave, Consolidated Omnibus Budget Reconciliation Act (COBRA), tuition reimbursement, employee assistance and retirement plans. In addition, ERCOT provides employees ten paid holidays per calendar year and paid vacation is determined upon the employee's length of continuous service.

According to ERCOT's Vacation Corporate Standard, major part-time employees earn half the number of vacations hours accrued by full-time employees. Managers and Directors accrue five hours per pay period and increase to 6.6667 hours after five years. Executive Directors and Offices accrue at 6.6667 hours per pay period. Non-management employees' accrual schedule includes:

Table 4-3
Benefits

Length of Service	Accrual Schedule for Full-Time Employees
Date of hire until 5 th anniversary	3.3334 hours/pay period (approx. 10 days/year)
5 th anniversary until 10 th anniversary	5 hours/pay period (approx. 15/year)
10 th anniversary and thereafter	6.6667 hours/pay period (approx. 20 days/year)

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For certain positions, ERCOT may offer non-management level employees the accrual plan for managers. To qualify for this exception, the applicant must have a minimum of ten years of directly related experience. Flexibility to provide key non-management employees the accrual plan for managers is an important aspect to attract qualified personnel with several years of experience.

Career Development:

ERCOT's business environment is very dynamic and as such ERCOT should be interested in hiring people with the appropriate set of skills and abilities to "grow" with the organization. At the same time, employees today are interested in working for organizations that offer programs that will help them develop their careers. A Key Result Area for ERCOT in 2006 – Management Practices and Organizational Readiness-included a Leadership Development/Training program. According to the December 2006 Executive Dashboard Report, 40 percent of ERCOT's management was trained. However, at that point all funds were cancelled and training was halted. No career development program for employees was identified.

Succession Planning:

The same Key Result Area mentioned above, also included a goal related to succession planning. However, the December 2006 Executive Dashboard Report shows that the focus was changed away from succession planning and it is to be reviewed in 2007. Succession planning helps organizations identify employees with leadership skills and potential to assume greater responsibilities. Succession plans are closely related to employee career development plans and should not only include the top tier of the ERCOT organization, but also other key strategic positions.

Rewards and Recognition:

Organizations today compete vigorously for qualified employees. Rewards and recognition have become an important part of the work experience. As the 2005 survey by World at Work states, "recognition involves identifying and reinforcing positive work performance. Its basic principle is that employees want to be acknowledged and valued for their contributions to the organization. Rewards involved giving something of value to recognize positive work results." Currently, ERCOT does not have a rewards and recognition program. R. W. Beck understands that due to the non-profit nature and quasi-state entity that ERCOT is, challenges such as funding for a rewards program would need to be considered; however, it is an important tool that impacts employee retention.

The 2005 World at Work survey states that because recognition programs can be a substantial investment, it is necessary to monitor the impact the program has on revenue, employee retention and productivity. The survey provides examples from three organizations as shown here in Figure 4-2.

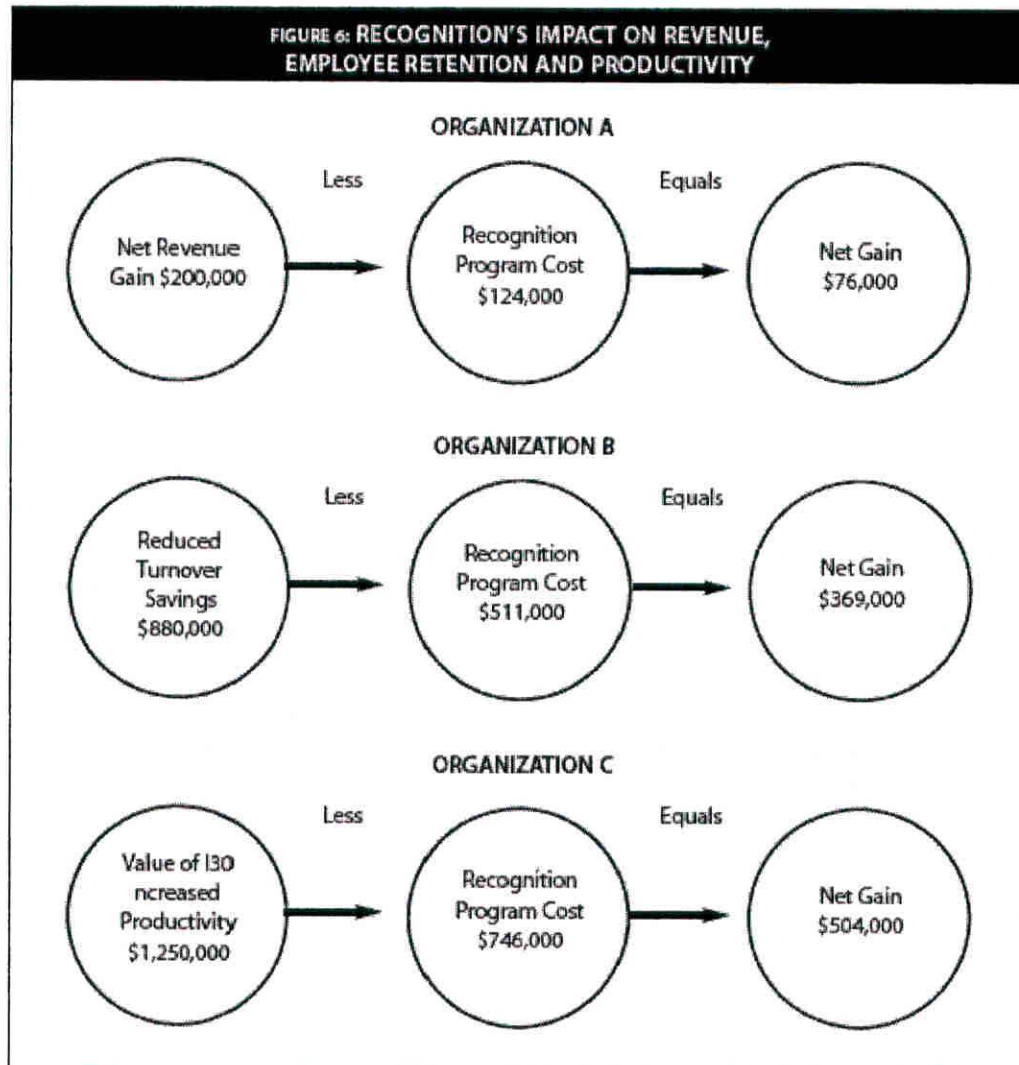


Figure 4-2: 2005 World at Work Survey

Organization A focused on tracking how recognition impacted customer service, employee performance and quality improvement and ultimately net revenue. Organization B focused on employee retention and determined that their cost to replace and train a new employee was approximately \$20,000. In this case, the recognition program was responsible for retaining 44 full-time equivalent employees based on historical turnover and employee feedback. Organization C focused on the relationship between recognition and productivity. Based on a before and after comparison, the recognition program implemented at Organization C increased productivity by ten percent, resulting in a \$504,000 net gain.

Additional Benefits:

In order to attract and retain key employees organizations are offering additional benefits such as telecommuting. For example, PJM offers its employees additional

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benefits which include insurance discounts, flextime, and telecommuting opportunities.

Additional Programs: Nodal Retention Program

ERCOT recognizes that it has a challenge retaining key employees as the transition from a Zonal to a Nodal Market continues. Due to the magnitude of the program, ERCOT has increased staff by hiring employees with specific skills that are critical to the success of the Nodal Project. The expected go-live date is December 1, 2008. If employees consider that there may not be an appropriate position available to them after the go-live date, they may begin looking for other opportunities before the project is completed. In an effort to retain key employees through the completion and execution of the Project, ERCOT has developed a Nodal Retention Program. The program provides eligible employees two weeks pay for every year of service and minimum payments that vary according to the position. For example, an Executive Director would receive six months pay and COBRA continuation of benefits at employee rates for six months; Directors or Senior Project Managers would receive four months pay and COBRA continuation of benefits for four months; and Other Employees would receive three months pay with COBRA continuation of benefits for three months.

Recommendation 4-22: ERCOT should expand its current Human Resource Strategy to include a career development program, succession plans, and a rewards and recognition program. ERCOT should also consider providing additional employee benefits such as flextime and telecommuting in an effort to attract and retain qualified personnel.

Section 5

WORKFORCE ANALYSIS - CONTRACT LABOR

5.1 Contract Labor

This section of the report provides R. W. Beck's findings, background and recommendations with regard to the use of contract labor including changes in percentage of the total workforce over time, use in filling professional and non-professional positions, the extent to which contracting is planned, and the cost of contract workers compared to employees.

ERCOT differentiates the contract labor it retains according to the following classifications:

- **Staff Support:** Refers to contract labor with certain technical or administrative skills employed over a period of time to support business operations, such as accounting or information technology activities.
- **Defined Deliverables:** Refers to contract labor hired to perform specific activities and deliver defined work products, such as Web portals for Nodal protocols, testimony and benchmarking studies.
- **Outsourced:** Refers to the delegation of non-core internal functions to an external entity, such as security and janitorial services.

R. W. Beck's contract labor analysis considered the service provided, time period and costs associated with ERCOT's contract labor. R. W. Beck identified comparable positions within the ERCOT organization in order to compare contract labor versus employee costs. The employee costs were obtained by determining the salary level for the position reviewed and increasing the hourly rate amount by 32 percent to reflect the payroll and benefits burden. Other burden factors were not included in the analysis as ERCOT does not have a figure that reflects additional load factor costs, such as facility costs.

5.2 Staff Support

ERCOT is in the process of supporting a transition from a Zonal Market to a Nodal Market. A high number of contractors have been retained to assist in the development of the infrastructure and systems required to successfully operate a Nodal Market. At the time of this assessment, ERCOT was working with 33 companies and had retained over 200 contract workers as Staff Support for Zonal and Nodal Market related activities.

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Finding: *ERCOT retains a significant amount of contracted labor as Staff Support to perform Zonal Market work activities. The incremental cost of this contracted labor is reasonable.*

Background: Companies frequently use Staff Support or Staff Augmentation contract labor for specific activities that tend to last for a pre-determined period of time. Staff support labor may be the most cost effective alternative for companies when activities have a specific duration, since the companies do not have to provide benefits or severance packages when the work activities are completed. Staff support contracted labor is also used when it is difficult to attract candidates for hiring because the local labor pool does not provide the required talent, skills found locally are inferior or the duration of the assignment is short, and less appealing to candidates.

ERCOT has contracted labor under its Staff Support alternative to assist with work activities related to the Zonal and Nodal Market. ERCOT has taken the approach of transferring highly qualified internal employees to Nodal Market development activities and “backfilling” the vacated Zonal Market-related jobs with contract labor. Exhibit B – Staff Augmentation Retained to Conduct Zonal Related Work Activities- illustrates the contractors retained by ERCOT to conduct Zonal Market related activities.

As Exhibit B – Staff Augmentation Retained to Conduct Zonal Related Work Activities- illustrates, the duration of the Staff Support contracts varies from one to 36 months; the average duration of the contract is for 15 months. The contracts with the longest duration are with B&V and Kforce and are related to personnel conducting zonal billing and settlement transactions, while ERCOT employees previously involved in these activities have been shifted to the Nodal Market program development and implementation. The cost per hour for the B&V personnel ranges from \$125 to \$145 per hour, which is approximately 104 to 137 percent of the rate at which an ERCOT employee would be paid for conducting these activities. In regards to Kforce, the cost for the billing analyst is \$34.61, which is eight percent higher than what an ERCOT employee would be paid for performing billing activities.

Ciber is managing website tasks associated with Collage software for 32 months at a cost that is 62 percent higher than what an ERCOT employee coordinating web content would be paid. Collage software is a content management system that is used by all coordinators to post content on the websites. The contractor has in depth knowledge of the tool and his expertise is not found in-house.

Other contractors hired for approximately 24 months are Lodestar, Kforce and a Human Resources recruiter. The cost for the software developer to support commercial systems with Lodestar is approximately 163 percent higher than what an ERCOT Senior Applications Architect would be. The services provided by Lodestar are very specific and unique. A qualified candidate with this expertise and knowledge is usually very difficult to find and may only be found at other ISOs or utilities.

The cost for the TIBCO Senior Architect level is also 163 percent higher than what an ERCOT Senior Applications Architect would be. As is the case with the Lodestar contractor, the skills and expertise for services related to the messaging bus or middleware tend to be unique and have a higher cost in the market.

It is R. W. Beck's opinion that contracted labor tends to be approximately 100 to 200 percent higher than what the cost for an internal FTE employee performing the same work activities would be, depending on geographical region and many other factors. As Exhibit B – Staff Augmentation Retained to Conduct Zonal Related Work Activities - illustrates, the cost for contracted labor to support Zonal work activities ranges from eight to 163 percent of cost for equivalent internal resources and only two contracts are effective at the highest rate. The contract with Lodestar is for 24 months and the contract with TIBCO is for six months. For both contracts, senior personnel with unique skills and experience are required.

Recommendation 5-1: The approach used by ERCOT to obtain contracted labor for Staff Support to support Zonal work activities is sound and should be continued.

Finding: *ERCOT retains contracted labor as Staff Support to perform Nodal Market work activities. The incremental cost of this contracted labor is reasonable.*

Background: ERCOT has contracted labor under its Staff Support alternative to assist with work activities related to the development and implementation of the Nodal Market. Once the Nodal Market is operational, it is expected that the number of contractors for Nodal related activities will decrease. Exhibit C - Staff Augmentation Retained to Conduct Nodal Market Related Work Activities-illustrates the contractors retained by ERCOT to conduct Nodal Market program development and implementation related activities.

As Exhibit C - Staff Augmentation Retained to Conduct Nodal Market Related Work Activities - illustrates, the duration of the Staff Support contracts varies from six to 36 months; the average duration of a contract is for 17 months. The contracts with the longest duration are with Ajilon Consulting, Comsys, Sentari Technologies and the Structure Group. Ajilon Consulting is providing various services such as project management, testing, resource development and project analysis, and the cost for their personnel range from \$50 to \$146 per hour which is eight to 139 percent above what an ERCOT employee performing equivalent tasks would be paid.

The contract with Comsys is effective for 32 months for market services activities and it is 80 percent above what an ERCOT employee would be paid for performing these activities.

The contract with Sentari Technologies is for 36 months for services such as web architecture, system design, testing and database administration. The costs for these services range from \$66 to \$190 per hour, which translates into costs that are 55 to 145 percent higher than an ERCOT employee's compensation for the type of work activities described.

The contract with the Structure Group is for 36 months for various services includes organizational design, settlements and billing support, project management and commercial systems software support. The costs for personnel with the Structure Group range from \$85 to \$200 per hour, which is 147 to 227 percent higher than what an ERCOT employee would be paid for similar services.

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Spherion Corporation is currently providing testing services to ERCOT under a contract that is effective for 26 months. The skills, expertise and qualifications of the testing personnel varies which is reflected in costs ranging from \$55 to \$190 per hour. The \$190 per hour rate for a Tester is 210 percent higher than an ERCOT Testing Supervisor.

IBM is another contractor retained by ERCOT to conduct various activities related to the Nodal Market development and implementation. The list of employees provided by this contractor includes a Project Manager with a cost that is approximately 190 percent higher when compared to a Senior Project Manager at ERCOT. The IBM contract requires an IBM Project Manager on site who is responsible for managing all IBM related activities. For example, the IBM Project Manager oversees all the IBM staff augmentation employees and is involved with working with the different servers and architects. This contractor position requires very high levels of skills and project management experience.

As Exhibit C - Staff Augmentation Retained to Conduct Nodal Market Related Work Activities-illustrates, the cost differential for contracted labor to develop and implement the Nodal Market program ranges from eight to 227 percent. As previously stated, R. W. Beck's experience shows that contracted labor tends to range from 100 to 200 percent higher than what the cost for an employee performing the same work activities would be. However, it is necessary to recognize that a higher level of skills, qualifications and experience are necessary to successfully develop and implement a Nodal Market within the established project time frame. In many instances, it is likely that the talent required is not available locally, which impacts costs, and may be under extreme demand on a nationwide basis. In addition, once the Nodal Market is implemented, certain skills and experience will no longer be required.

Recommendation 5-2: The approach used by ERCOT to obtain contracted labor for Staff Support to support Nodal Market development work activities is sound and should be continued.

5.3 Defined Deliverables

At ERCOT, Defined Deliverables refers to contract labor hired to perform specific activities and deliver defined work products, such as Web portals for Nodal protocols, software application interfaces, testimony work activities and benchmarking studies.

Finding: *ERCOT uses a number of Defined Deliverables contracts for Zonal Market activities and Nodal Market development work.*

Background: ERCOT retained contracted labor under this category for Zonal and Nodal Market related work activities. Only three companies were retained as contract labor for Zonal Market defined deliverable activities that are to be developed in under one year:

- Clarence Augustine as a trainer for Oracle Security and protocols. The cost for these services was \$6,840.

- Maxwell Locke & Ritter for an audit money purchase plan. The cost for these services was \$16,500.
- PriceWaterhouseCoopers for a SAS 70 audit. The cost for these services is approximately \$268 per hour.

Exhibit D - Defined Deliverables Retained to Conduct Nodal Market Related Work Activities-lists the companies retained under Defined Deliverables contracts to conduct Nodal Market related activities. The time period for these contracts ranges from two to 36 months, with an average duration of 14 months. An hourly rate was available for several of these contracts ranging from \$52 to \$275 dollars per hour. The costs for other contracts were available as a lump sum.

As previously stated, very high skills, qualifications and in-depth experience are required to successfully develop and implement a Nodal Market within the time frame established for ERCOT. Defined Deliverables contractors are characterized by the fact that the required expertise is not available within the ERCOT organization and availability may be limited even on a national basis. In addition, these contractors are associated with specific activities with limited time frames, and once the Nodal Market is operational these contracts will expire.

Recommendation 5-3: The approach used by ERCOT in obtaining Defined Deliverables via contracted services for support of Zonal Market work activities and in support of Nodal Market development work is sound and should be continued.

5.4 Outsourced Labor

Outsourced labor refers to the delegation of non-core operations from internal production to an external entity.

Finding: *ERCOT outsources non-core competency functional activities.*

Background: Outsourcing options are closely dependent on an organization's business model. Many organizations outsource several functions that are considered to be non-core competency operations. Examples of functions frequently outsourced include security, maintenance, information technology services, etc. R. W. Beck reviewed the services ERCOT currently outsources and also identified whether other functions within the ERCOT organization would be feasible for outsourcing.

Currently, six companies provide outsourced services to ERCOT. These companies are:

- Allied Security provides security services to ERCOT under a two-year contract for approximately \$1,700,000. The services include 27 security employees.
- Entech Sales provides maintenance services under a one-year contract for approximately \$10,700.
- Kendall Building Care provides janitorial services under a two-year contract for approximately \$760,000. The services include 27 janitor-type employees.

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- Potomac Economics provides independent market monitoring services under a three-year contract for approximately \$585,000.
- Snacks provides services related to vending machines for \$108,250 (duration of the contract was not available).
- Tex-system cabling provides cabling services for approximately \$295,000 (duration of the contract was not available).

As the list illustrates, these companies provide services that are non-core competency functions within the ERCOT organization.

When determining functions that are non-core competencies for ERCOT, it is necessary to consider ERCOT's Vision and Mission. ERCOT's vision is for Texas electricity customer's to realize the greatest value from reliable electric power supplies and access to competitive markets. ERCOT's Mission is to direct and ensure reliable and cost effective operations of the electric grid and to enable fair and efficient market-driven solutions to meet customer's electric service needs.

Considering ERCOT's Mission and Vision statements, the Systems Operations division operates the electric grid and the Market Operations division acts as the centralized hub for managing the retail electric transactions and providing support to wholesale customers. These divisions perform ERCOT's core functions and are supported by the other divisions within ERCOT:

- Finance: This division is responsible for ERCOT's accounting, budgeting and financial operations. It also includes procurement and the PMO. Larger organizations tend to handle the accounting, budgeting and financial processes internally. In regards to the PMO, the ERCOT organization manages projects that vary in size, subject and expense. As such a PMO is necessary to facilitate effective and efficient project management. As some companies, the procurement function is sometimes outsourced, however, due to ERCOT's procurement needs and organizational culture, outsourcing the procurement function is not recommended.
- General Counsel: This division provides legal support to the ERCOT organization. It is valuable for ERCOT to have internal legal expertise, however, some legal activities may be outsourced, such as assistance with time consuming litigation and regulatory proceedings.
- Communications and Government Relations are also located within the General Counsel division. R. W. Beck's experience is that these functions are typically not outsourced to contractors.
- Human Resources and Organizational Development: The human resources function that deals with personnel management is typically conducted in-house. Some organizations outsource certain functions such as recruitment and training. ERCOT currently uses a combination of internal and contracted labor for these activities.
- Internal Audit: Internal Audit is responsible for auditing various functions and activities within ERCOT. Industry practice varies as to whether auditors are on

staff or outside contracted resources. Even when a Manager of Internal Audit is on staff, a common practice is to retain external consultants to audit specific functions or areas.

- **Facilities and Site Development:** This department is responsible for facility development, maintenance, and health and safety. Facility maintenance is frequently outsourced. In regards to facility development, the planning component requires a clear understanding of the organization's future needs, but actual facility development is usually conducted by a third party. Health and safety programs usually are conducted by the organization's internal staff.
- **Information and System Security:** Physical and electronic security is a vital aspect for ERCOT. As such, the management of these activities is conducted in-house and is supported by outsourced security services.
- **Information Technology:** ERCOT's core functions are heavily dependent on effective and efficient information systems and technology. Due to the relevance of this function and impact on ERCOT operations, the Information Technology function should remain within ERCOT.
- **Systems Planning:** This division is responsible for developing system forecasts, future load demands, future generation needs and transmission planning. These activities are key to ERCOT operations and as such are conducted in-house with occasional support from outside consultants for specific planning studies.

Recommendation 5-4: ERCOT should continue outsourcing non-core competency functions such as janitorial and security services. In addition, ERCOT management should continually assess other outsourcing options that may become appropriate as ERCOT's business environment and strategic direction change over time.

Section 5

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Exhibit A

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ERCOT KEY PERFORMANCE INDICATOR MATRIX
YTD August 1, 2007

KPIs	CURRENT QUARTER PERFORMANCE	PRIOR QUARTER PERFORMANCE	TREND	STATUS
1 Compliance with ERCOT Protocols, and NERC Standards and Requirements	Goal Achieved	Goal Achieved	↕	In Progress
2 Retail Transaction Processing in Accordance with Protocols	Goal Achieved	Goal Achieved	↕	In Progress
3 Wholesale Transaction Processing in Accordance with Protocols	Goal Achieved	Goal Achieved	↕	In Progress
4 Completion of Nodal Milestones in Accordance with Schedule and budget	Goal Achieved	In Progress	↑	In Progress
5 Conduct Base Operations Within Approved Budget	Goal Achieved	Goal Achieved	↕	In Progress
6 Conduct Legal, Legislative and Regulatory Activities in Accordance With Rules	Goal Achieved	Goal Achieved	↕	In Progress
7 Hire and Retain the Staff Necessary to Meet the Business Demands	Goal Achieved	Goal Achieved	↕	In Progress
8 Receipt of Favorable Financial and SAS 70 Audits	In Progress	Not Started	↕	In Progress

ERCOT KEY PERFORMANCE INDICATOR MATRIX
YTD August 1, 2007

9	Sustain and strive to improve market participant satisfaction within legislative, regulatory and corporate governance parameters. Not included in 2007 goals - survey is performed bi-annually.	N/A	N/A	↕	N/A
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ERCOT **KEY PERFORMANCE INDICATORS AND 2007 GOALS**

KPI 1: Compliance with ERCOT Protocols, and NERC Standards and Requirements

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
1. Compliance with ERCOT Protocols, and NERC Standards and Requirements	20%	Complete the reviews of all projects submitted for regional planning along with the ERCOT 5-Year Transmission Plan.	Bojorquez, Bill	Complete the 5-year plan and 90% of regional planning project review on time	In Progress	Goal achieved
	10%	Complete all generation interconnection and reliability must run studies in accordance with PUCT rules and ERCOT protocols.	Bojorquez, Bill	95% of generation interconnections and reliability must run studies completed on time.	In Progress	Goal achieved
	15%	Achieve full compliance with NERC/ERO standards, ERCOT protocols and PUCT rules requirements for ERCOT planning and reporting functions and the transmission Congestion Rights and Renewable Energy Credit Programs.	Bojorquez, Bill	No more than 2 planning related exceptions from NERC standards, PUCT rules or ERCOT protocols.	In Progress	Goal achieved
	10%	Maintain 98% or better compliance in annual Operations Audit.	Saathoff, Kent	98% compliance	In Progress	In Progress
	20%	Comply with all NERC/ERO operating reliability standards and requirements.	Saathoff, Kent	No emergency conditions or loss of firm load attributable wholly or in part to violation of NERC/ERO standards and requirements.	In Progress	In Progress
	15%	Complete action on recommendations from the 2005 NERC compliance audit.	Saathoff, Kent	All but 2 implemented by June 2007	Completed	Goal Achieved
	5%	Develop, document and initiate training on Operating Procedures for the Nodal market.	Saathoff, Kent	Procedures documented & training commenced by end of 4th qtr	In Progress	In Progress
	5%	Establish organization chart and functional responsibilities for the System Operations division in the Nodal Market.	Saathoff, Kent	Completed by end of 3rd qtr	Completed	Goal Achieved
	Total Pct	100%				

ERCOT
KEY PERFORMANCE INDICATORS AND 2007 GOALS
 KPI 2. Retail Transaction Processing in Accordance with Protocols

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
2. Retail Transaction Processing in Accordance with Protocols	20%	ERCOT Initiated 814 Switch Transactions – Enrollment and Meter Read Scheduling	Giuliani, Ray	99%	In Progress	Goal Achieved
	20%	ERCOT Initiated Switch 867 Transactions – Historical and Initial Meter Read Deliveries	Giuliani, Ray	99.0%	In Progress	Goal Achieved
	20%	ERCOT Initiated MIMO 814 Transactions – Enrollment and Meter Read Scheduling	Giuliani, Ray	95.0%	In Progress	Goal Achieved
	20%	ERCOT Initiated MIMO 867 Transactions – Historical and Initial Meter Read Deliveries	Giuliani, Ray	99.0%	In Progress	Goal Achieved
	20%	Provide overall reliability of 99.9%, with reliability defined in retail segment service expectation agreement, from April 1 to Dec 31.	Hinsley, Ron	Jan 2007 - Mar 2007 99.4%	Jan 2007 - Mar 2007 In Progress	Jan 2007 - Mar 2007 Goal Not Met
Total Pct	100%			Apr 2007 - Dec 2007 99.95%	Apr 2007 - Dec 2007 In Progress	Apr 2007 - Dec 2007 Goal Not Met

ERCOT

KEY PERFORMANCE INDICATORS AND 2007 GOALS

KPI 3. Wholesale Transaction Processing in Accordance with Protocols

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
3. Wholesale Transaction Processing in Accordance with Protocols	25%	Percent of transactions processed within the settlement calendar which followed the calendar.	Giuliani, Ray	99.0%	In Progress	Goal Achieved
	25%	Completed and accurate EPS meter data for settlement runs	Giuliani, Ray	99.0%	In Progress	Goal Achieved
	25%	Percent of IDR data captured by true-up as requested from MRE.	Giuliani, Ray	99.2%	In Progress	Goal Achieved
	25%	Percent of Completed dispute filings in accordance to protocol - Annual	Giuliani, Ray	95.0%	In Progress	Goal Achieved
Total Pct	100%					

ERCOT
KEY PERFORMANCE INDICATORS AND 2007 GOALS
 KPI 4: Completion of Nodal Milestones in Accordance with Schedule

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
4. Completion of Nodal Milestones in Accordance with Schedule	40%	Monitor and execute Nodal program to meet critical milestone dates and meet approved budget levels.	Hinsley, Ron	10% completion of milestones within 60 days of plan, 90% completion of milestones per plan.	In Progress	Goal Achieved
	5%	Install the e-recruiting module for Lawson by the end of 2007, to streamline the time-to-hire and allow for the establishment of a proactive recruiting database.	Capezzuti, Nancy	Installed by 12/31/07	In Progress	Goal Not Met
	10%	Install a Congestion Revenue Rights team and validate the CRR System and Business processes.	Bojorquez, Bill	90% of the CRR project milestones are met on time and delivered to the specifications as determined by the Nodal project team.	In Progress	Goal Achieved
	5%	Coordinate development of the updated Nodal fee filing consistent with the nodal baseline budget, ensure synchronization with ERCOT Base budget as warranted.	Byrne, Steve	File before 1/30/2007	Completed	Goal Achieved
	10%	Maintain ready access to capital to fund Nodal expenditures and develop recommendations for permanent financing of nodal costs	Byrne, Steve	Obtain BoB approval of financing plan by 9/30/2007	Completed	Goal Achieved
	5%	Develop and communicate post-Nodal human resource needs	Hinsley, Ron	Requirements delivered prior to due date	In Progress	Goal Not Met
	5%	Develop and communicate post-Nodal human resource needs	Capezzuti, Nancy	Requirements delivered prior to due date	In Progress	Goal Not Met
	10%	Develop, document and initiate training on Operating Procedures for the Nodal market.	Giuliani, Ray	All procedures, documentation & training commenced by end of 3rd qtr	In Progress	In Progress
	10%	Establish organization chart and functional responsibilities for the System Operations division in the Nodal Market.	Saathoff, Kent	Completed by end of 2nd qtr	Completed	Goal Achieved
	100%					
Total Pct						

ERCOT

KEY PERFORMANCE INDICATORS AND 2007 GOALS

KPI 5. Conduct Base Operations Within Approved Budget

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
5. Conduct Base Operations Within Approved Budget	30%	Facilitate quarterly performance reviews with executive officers	Byone, Steve	Quarterly review held with documentation & discussion regarding action items	In Progress	Goal Achieved
	10%	Manage total spending within approved Division/Dept 2007 authorized budget.	Byone, Steve	Approved Division/Dept 2007 authorized budget.	In Progress	Goal Achieved
	10%		Saathoff, Kent		In Progress	Goal Achieved
	10%		Giuliani, Ray		In Progress	Goal Achieved
	10%		Hinsley, Ron		In Progress	Goal Not Met
	10%		Bojorquez, Bill		In Progress	Goal Achieved
	10%		Thorne, James		In Progress	Goal Achieved
Total Pct	10%		Capezzuti, Nancy		In Progress	Goal Achieved
	100%					

ERCOT

KEY PERFORMANCE INDICATORS AND 2007 GOALS

KPI 6. Conduct Legal, Legislative and Regulatory Activities in Accordance With Rules

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
6. Conduct Legal, Legislative and Regulatory Activities in Accordance With Rules	15%	Completion of Legal Department staffing and reorganization.	Thorne, James	Hired new attorney and new paralegal in 3/07	Completed	Goal Achieved
	15%	Legal Department personnel will be of more proactive assistance to other ERCOT departments.	Thorne, James	Attorneys are doing increased proactive business issue contacts with other ERCOT departments	In Progress	Goal Achieved
	15%	Legal Department personnel will take a more active role and presence at the PUCT, the Texas Legislature and other regulatory agencies, where applicable.	Thorne, James	The Dept. Reg. AGC and the GR Mgr. have daily contacts or meetings	In Progress	Goal Achieved
	15%	Legal Department personnel will periodically conduct in-house seminars on legal topics of interest and assistance to other ERCOT departments.	Thorne, James	The GC and AGCs presented issue programs at Board Retreat in 2/07; additional programs will be presented periodically	In Progress	Goal Achieved
	15%	The Legal Department will closely monitor and strive to limit its outside legal fees, in part, by using outside legal assistance only when necessary.	Thorne, James	The Department is using outside counsel on a more limited basis and reviews outside expenses regularly	In Progress	Goal Achieved
	5%	Obtain final approval for the new Employee HR Standards Manual (old handbook) and distribute by 04/01/07.	Capezzuti, Nancy	The draft HR Standards Manual has been reviewed by Legal and comments provided to HR VP	Completed	Goal Achieved
	20%	Meet all required filing dates and regulatory requirements	Thorne, James	Meet all required dates	In Progress	Goal Achieved
	100%					
Total Pct						

ERCOT

KEY PERFORMANCE INDICATORS AND 2007 GOALS

KPI 7: Hire and Retain the Staff Necessary to Meet the Business Demands

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
7. Hire and Retain the Staff Necessary to Meet the Business Demands	20%	Implement the new salary structure and guidelines with the merit review cycle effective April 1, 2007.	Capezzuti, Nancy	Implemented by 4/9/07	Completed	Goal Achieved
	20%	Obtain final approval for the new Employee HR Standards Manual (old handbook) and distribute by 04/01/07.	Capezzuti, Nancy	Distributed by 4/1/07	Completed	Goal Achieved
	15%	Install the e-recruiting module for Lawson by the end of 2007, to streamline the time-to-hire and allow for the establishment of a proactive recruiting database.	Capezzuti, Nancy	Installed by 12/31/07	In Progress	Goal Not Met
	5%	Establish & communicate performance expectations and reward mechanisms; provide regular feedback regarding performance	Byone, Steve	Performance reviews & feedback Completed by due dates with group wide input on feedback	In Progress	In Progress
	5%		Saathoff, Kent		Completed	Goal Achieved
	5%		Giuliani, Ray		In Progress	Goal Achieved
	5%		Hinsley, Ron		In Progress	Goal Not Met
	5%		Thorne, James		In Progress	Goal Achieved
	5%		Bojorquez, Bill		In Progress	Goal Achieved
	5%		Capezzuti, Nancy		Completed	Goal Achieved
	10%	Implement an employee recognition program by September 30, 2007	Capezzuti, Nancy	Implemented by 9/30/07	In Progress	Goal Not Met
Total Pct		100%				

ERCOT
KEY PERFORMANCE INDICATORS AND 2007 GOALS
 KPI 8. Receipt of Favorable Financial and SAS 70 Audits

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
8. Receipt of favorable Financial and SAS 70 Audits	50%	Obtain unqualified ("clean") audit opinions	Byone, Steve	Unqualified Financial Audit	In Progress	In Progress
	50%	SAS 70 Audit - Performance	Giuliani, Ray	Unqualified opinion for each SAS 70 control objective	In Progress	Goal Achieved
Total Pct	100%					

ERCOT

KEY PERFORMANCE INDICATORS AND 2007 GOALS

KPI 9. Wholesale Transaction Processing in Accordance with Protocols

KPI	Pct of KPI	Goal	Officer	Measurement	Status	Performance
9. Sustain and strive to improve market participant satisfaction within legislative, regulatory and corporate governance parameters.	100%	Sustain and strive to improve market participant satisfaction within legislative, regulatory and corporate governance (i.e. By-Laws, Protocols, Operating Guides, etc.) parameters.	Kahn, Bob	Conduct a survey in early 2008 to (i) assess ERCOT's role as perceived by stakeholders and (ii) measure ERCOT's performance as perceived by market participants and compare the results of each to the previous surveys.	In Progress	Goal Not Met
Total Pct	100%					

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Exhibit B

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Table 5.1
Staff Augmentation Retained to Conduct Zonal Related Work Activities

Company	ERCOT Staff Augmentation Service provided - Zonal Related	Start Date	End Date	Months	ERCOT Equivalent Position	Cost per hour	Salary - Burden ERCOT Midpoint	% Difference Mid
At Power LLC	Interim EMMS Dev Mgr	10/4/2006	10/5/2007	12	EMMS Dev Mgr	\$ 140.00	\$ 80.91	73.02%
Accounting Principals	General accounting sys	1/26/2007	8/31/2007	7	Accountant	\$ 29.00	\$ 32.05	13.11%
Audio Fidelity	Audio/visual equipment maintenance	9/26/2006	9/25/2008	12	Not Applicable	\$ 14,000.00	N/A	N/A
B&V	Settlements and Billing	6/12/2006	6/30/2009	36	Lead Settlements Analyst	\$ 140.00	\$ 61.18	128.84%
	Commerical Systems Software	6/12/2006	6/12/2006	36	Applications Developer Sr.	\$ 145.00	\$ 61.18	137.02%
	Technical Siebel Applications	6/12/2006	6/12/2006	36	Systems Architect	\$ 125.00	\$ 61.18	104.33%
B&V	Settlements and Billing	10/2/2006	10/1/2007	12	Lead Settlements Analyst	\$ 140.00	\$ 61.18	128.84%
	Tester	1/29/2007	3/28/2008	14	Supervisor Testing	\$ 147.00	\$ 61.18	140.29%
Ciber	Managing website tasks	3/16/2006	11/30/2008	32	Web Content Coordinator	\$ 75.00	\$ 46.26	62.11%
Comsys	Clerical/Admin	6/25/2007	8/15/2007	2	Administrative Assistant	\$ 25.00	\$ 20.75	20.47%
Entequity	Filing	6/25/2007	7/25/2007	1	Administrative Assistant	\$ 24.25	\$ 20.75	16.86%
Kforce	TIBCO Dev Resource	8/21/2006	2/28/2008	18	Applications Dev. Sr.	\$ 125.00	\$ 61.18	104.33%
	Program Analyst	1/15/2007	12/21/2007	1	Program Analyst Sr.	\$ 91.67	\$ 40.23	127.84%
Kforce	Tester	10/24/2006	8/31/2008	22	Testing Specialist	\$ 68.86	\$ 40.23	71.15%
Kforce	Zonal Billing Analyst	4/2/2007	7/31/2009	27	Billing Analyst Sr.	\$ 34.61	\$ 32.05	7.99%
Kforce	Accounting Staff Support	1/8/2007	10/31/2007	9	Accountant	\$ 28.83	\$ 32.05	12.45%
Lodestar	Software dev for Commerical Sys	8/25/2006	9/30/2008	25	Applications Architect Sr.	\$ 185.00	\$ 70.38	162.86%
Mike Hagan	HR Recruiter	9/14/2005	8/31/2007	23	Recruiter	\$ 40.00	\$ 35.92	11.36%
ObjectWin Tech	Tester	2/20/2007	8/31/2008	18	Testing Specialist	\$ 80.00	\$ 40.23	98.83%
TIBCO	Sr Architect Level TIBCO expertise	4/25/2007	10/20/2007	6	Applications Architect Sr.	\$ 185.00	\$ 70.38	162.86%
Structure Group	Billing support	11/13/2006	8/2/2007	9	Settlements Analyst Sr.	\$ 135.00	\$ 53.18	153.85%
TEK Systems	Desktop Support Technician	11/13/2006	3/1/2008	16	Desk Side Support Tech	\$ 43.00	\$ 32.05	34.17%

Exhibit C

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Table 5.2
Staff Augmentation Retained to Conduct Nodal Market Related Work Activities

Company	ERCOT Staff Augmentation Service provided - Nodal Related	Start Date	End Date	Months	ERCOT Equivalent Position	Cost per hour	Salary - Burden ERCOT Midpoint	% Difference Mid
Ajilon Prof Staffin	Data Entry & Executive Assistant	7/25/2006	1/1/2008	18	Data Entry Clerk	\$ 20.41	\$ 17.13	19.12%
Ajilon Consulting	Executive Admin	7/25/2006	1/1/2008	18	Executive Assistant	\$ 34.61	\$ 32.05	7.99%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist	\$ 85.00	\$ 40.23	111.26%
	Project Controller for TNMIP (MER)	4/9/2006	12/31/2008	32	Project Mgr. Sr	\$ 140.00	\$ 61.18	128.84%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist	\$ 87.00	\$ 40.23	116.23%
	Siebel Development Resource	4/9/2006	12/31/2008	32	Systems Architect Sr.	\$ 105.00	\$ 70.38	49.19%
	MIS Portal Development	4/9/2006	12/31/2008	32	Applications Dev. Sr.	\$ 82.00	\$ 61.18	34.04%
	Sr PM for Nodal	4/9/2006	12/31/2008	32	Program Manager Sr.	\$ 120.00	\$ 61.18	96.15%
	PM for Nodal	4/9/2006	12/31/2008	32	Program Manager	\$ 120.00	\$ 53.18	125.65%
	PM	4/9/2006	12/31/2008	32	Program Manager Sr.	\$ 146.00	\$ 61.18	138.65%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist Sr.	\$ 68.00	\$ 46.26	46.98%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist	\$ 95.00	\$ 40.23	136.12%
	Website dev for Nodal	4/9/2006	12/31/2008	32	Applications Developer 1	\$ 50.00	\$ 46.26	8.08%
	Sr Congestion Revenue Rights Analysts	4/9/2006	12/31/2008	32	CRR Engineer/Analyst SR	\$ 121.00	\$ 61.18	97.79%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist	\$ 88.00	\$ 40.23	118.72%
	Interface dev to support EMS/MMS	4/9/2006	12/31/2008	32	Applications Dev. 2	\$ 88.00	\$ 53.18	65.47%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist	\$ 82.00	\$ 40.23	103.80%
	Tester	4/9/2006	12/31/2008	32	Testing Specialist Sr.	\$ 78.00	\$ 46.26	68.60%
	Project Analyst	4/9/2006	12/31/2008	32	Testing Specialist Sr.	\$ 78.00	\$ 46.26	68.60%
	Tester	4/9/2006	12/31/2008	32	Program Analyst Sr.	\$ 80.00	\$ 46.26	72.92%
	Technical Architect for CRR	4/9/2006	12/31/2008	32	Testing Specialist	\$ 87.00	\$ 40.23	116.23%
	Tester	4/9/2006	12/31/2008	32	Systems Architect Sr.	\$ 120.00	\$ 70.38	70.51%
	Sr PM for Nodal	4/9/2006	12/31/2008	32	Testing Specialist	\$ 94.00	\$ 40.23	133.63%
AMTEK Consulting	Tester	11/6/2006	8/3/2008	32	Program Manager Sr.	\$ 140.00	\$ 61.18	128.84%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist Sr.	\$ 115.00	\$ 46.26	148.58%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist	\$ 89.00	\$ 40.23	121.20%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist	\$ 99.00	\$ 40.23	146.06%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist	\$ 99.00	\$ 40.23	146.06%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist	\$ 95.00	\$ 40.23	136.12%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist	\$ 95.00	\$ 40.23	136.12%
	Tester	11/6/2006	8/3/2008	21	Testing Specialist Sr.	\$ 111.00	\$ 46.26	139.93%
APEX Systems	Market Ops Analyst	5/21/2007	12/17/2007	21	Testing Specialist Sr.	\$ 100.00	\$ 46.26	116.15%
	Settlements and Billing	5/21/2007	12/17/2007	7	Market Support Analysts 2	\$ 92.00	\$ 46.26	98.86%
B&V	Software dev & support	2/6/2007	9/30/2007	7	Billing Analyst Sr.	\$ 76.00	\$ 32.05	137.14%
	Tester	2/6/2007	9/30/2007	7	Systems Architect Sr.	\$ 150.00	\$ 70.38	113.13%
	Mkt Readiness Metrics	2/6/2007	9/30/2007	7	Testing Specialist	\$ 150.00	\$ 61.18	145.19%
	Settlements Business Analyst	2/6/2007	9/30/2007	7	Manager Mkt Redesign	\$ 160.00	\$ 70.38	127.34%
B&V	Communications Analyst	3/21/2007	2/15/2008	7	Business Intelligence Analyst Sr.	\$ 140.00	\$ 53.18	163.25%
Bluware	Tester	5/7/2007	8/31/2008	11	Program Analyst	\$ 95.00	\$ 40.23	136.12%
	Lodestar billing expert	5/7/2007	8/31/2008	15	Manager, Market Ops Testing	\$ 189.00	\$ 70.38	168.55%
	Tester	5/7/2007	8/31/2008	15	Web content coordinator	\$ 115.00	\$ 46.26	148.58%
	Tester	5/7/2007	8/31/2008	15	Testing Specialist Sr.	\$ 110.00	\$ 46.26	137.77%
	Tester	5/7/2007	8/31/2008	15	Testing Specialist Sr.	\$ 110.00	\$ 46.26	137.77%
Bridge Consulting	Tester	5/7/2007	8/31/2008	15	Manager, Market Ops Testing	\$ 189.00	\$ 70.38	168.55%
Comsys	Market Services Specialists	5/10/2007	1/4/2008	8	Testing Specialist	\$ 100.00	\$ 40.23	148.54%
Comsys	Change PM EMS/MMS	4/16/2006	12/31/2008	32	Stakeholder Services Specialist	\$ 57.72	\$ 32.05	80.10%
	Sr Database Admin	5/28/2007	5/25/2008	12	Project Mgr. Sr	\$ 89.75	\$ 61.18	46.71%
	Project Coordinator EMS/MMS	5/28/2007	5/25/2008	12	Storage Admin. Sr.	\$ 98.52	\$ 61.18	61.04%
	Release Coordinator	5/28/2007	5/25/2008	12	Lead EMMS Prod. Application	\$ 75.25	\$ 61.18	23.00%
	Systems Analyst	5/28/2007	5/25/2008	12	Release Coordinator	\$ 117.00	\$ 61.18	
	Project Manager	5/28/2007	5/25/2008	12	Systems Analyst Sr.	\$ 112.50	\$ 53.18	111.54%
Comsys	Sr Applications Engineer	4/16/2007	4/4/2009	12	Project Mgr. Sr	\$ 124.75	\$ 53.18	134.58%
Connectel	Oracle Dev	3/16/2007	12/31/2008	24	Applications Developer Sr.	\$ 104.93	\$ 61.18	71.52%
	In-flight Capital Projects	3/16/2007	12/31/2008	21	Applications Developer Sr.	\$ 120.00	\$ 61.18	96.15%
	In-flight Capital Projects	3/16/2007	12/31/2008	21	N/A	\$ 105.00	N/A	N/A
	In-flight Capital Projects	3/16/2007	12/31/2008	21	N/A	\$ 105.00	N/A	N/A
DCC	Database Admin.	7/17/2006	7/16/2007	12	N/A	\$ 95.00	N/A	N/A
DCC	Oracle Database Consultant	1/2/2007	7/2/2007	12	Architect Storage Mgmt.	\$ 125.00	\$ 53.18	135.05%
ECCO Continental	Nodal Market Training Specialist	N/A	N/A	6	Applications Developer Sr.	\$ 140.00	\$ 61.18	128.84%
	Sr CRR Analyst	N/A	N/A	N/A	Training Specialist Sr.	\$ 137.00	\$ 53.18	157.61%
	Technical expertise for Market Systems	N/A	N/A	N/A	CRR Analyst Sr.	\$ 130.00	\$ 61.18	112.50%
	Planning Engineer for NMMS	N/A	N/A	N/A	Applications Dev. Sr.	\$ 170.00	\$ 61.18	177.88%
	Sr EDS Analyst	N/A	N/A	N/A	Applications/Engineer Analyst 2	\$ 55.00	\$ 53.18	3.42%
	Market Dev App	N/A	N/A	N/A	Storage Admin. Sr.	\$ 135.00	\$ 61.18	120.67%
	State Estimator Engineer for Nodal	N/A	N/A	N/A	Applications Dev Sr.	\$ 172.00	\$ 61.18	181.15%
	Operational State Estimator	N/A	N/A	N/A	Network Model Eng Sr.	\$ 125.00	\$ 61.18	104.33%
	Project Engineer OTS/MOTE	N/A	N/A	N/A	Systems Operator 2	\$ 125.00	\$ 53.18	135.05%
EMC Corp	Storage Admin	5/7/2007	12/31/2007	7	Lead Planning Engineer	\$ 160.00	\$ 76.09	110.28%
Entequity	Enterprise Integration Strategy	6/19/2006	6/30/2008	24	Storage Admin.	\$ 72.61	\$ 53.18	36.53%
Kate Horne	Communications Lead	8/14/2006	8/13/2007	12	Enterprise Architect Sr.	\$ 140.00	\$ 70.38	98.92%
IBM	Enterprise Systems Arch.	8/11/2006	8/8/2007	12	N/A	\$ 21,562.00	N/A	N/A
Kema	EMS requirements	6/5/2006	6/30/2008	24	Enterprise Architect Sr.	\$ 189.00	\$ 70.38	168.55%
Kforce	Tester	5/14/2007	4/25/2008	24	Manager, EMMS Production	\$ 225.00	\$ 80.91	178.07%
	Project Coordinator	5/14/2007	4/25/2008	11	Testing Specialist	\$ 90.00	\$ 40.23	123.69%
	Tester	5/14/2007	4/25/2008	11	Project Mgr. Sr.	\$ 65.50	\$ 61.18	7.07%
	Sr Level Admin	5/14/2007	4/25/2008	11	Testing Specialist Sr.	\$ 75.90	\$ 46.26	64.06%
	Tester	5/14/2007	4/25/2008	11	Administrative Assistant Sr.	\$ 30.40	\$ 25.58	18.87%
				11	Testing Specialist	\$ 83.45	\$ 40.23	107.41%

Kforce	Release Coordinator	5/14/2007	4/25/2008	11 Release Coordinator	\$ 95.00	\$ 61.18	55.29%
	Sr Project Scheduler	5/14/2007	4/25/2008	11 Project Mgr. Sr.	\$ 95.07	\$ 61.18	55.40%
	Sr Level Admin	5/14/2007	4/25/2008	11 Administrative Assistant Sr.	\$ 32.10	\$ 25.58	25.51%
	Project Management	5/14/2007	4/25/2008	11 Project Mgr.	\$ 97.00	\$ 53.18	82.40%
	Storage Admin	5/14/2007	4/25/2008	11 Storage Admin.	\$ 118.44	\$ 53.18	122.71%
	Staff Aug for Digital Certificates	5/14/2007	4/25/2008	11 Specialist Maintenance Support	\$ 43.00	\$ 22.85	88.22%
	Test Environment Coord./Web Service	5/14/2007	4/25/2008	11 Web Content Coordinator/Testing Sp	\$ 98.00	\$ 46.26	111.83%
	Project Manager EMS/MMS	5/14/2007	4/25/2008	11 Project Mgr. Sr.	\$ 95.67	\$ 61.18	56.38%
	Storage Admin	4/17/2007	10/12/2007	6 Storage Admin.	\$ 95.00	\$ 53.18	78.64%
	IT Systems Designer	4/17/2007	10/12/2007	6 Applications Developer 2	\$ 124.56	\$ 53.18	134.22%
Logic Trends	Tester	4/17/2007	10/12/2007	6 Testing Specialist Sr.	\$ 99.00	\$ 46.26	113.99%
	Tester	4/17/2007	10/12/2007	6 Testing Specialist	\$ 77.79	\$ 40.23	93.34%
	Market Participant Identity Mgmt System	5/14/2007	1/11/2008	8 Systems Architect Sr.	\$ 170.00	\$ 70.38	141.55%
	Project Controls	6/22/2006	12/12/2007	18 Program Analyst	\$ 80.00	\$ 40.23	98.83%
	Web Architech - web liaison	12/20/2005	12/31/2008	36 Systems Architect	\$ 120.00	\$ 61.18	96.15%
	Project Manager	12/20/2005	12/31/2008	36 Project Manager	\$ 95.00	\$ 53.18	78.64%
	IT System Designer	12/20/2005	12/31/2008	36 Applications Developer 2	\$ 145.00	\$ 61.18	137.02%
	EIS Consulting	12/20/2005	12/31/2008	36 N/A	\$ 110.00	N/A	N/A
	Market Services Analyst	12/20/2005	12/31/2008	36 Retail Transaction Analyst	\$ 66.00	\$ 32.05	105.94%
	Tester	12/20/2005	12/31/2008	36 Testing Specialist	\$ 79.50	\$ 40.23	97.59%
Next Gen Info Sentari Technologies	CO-DPO Business Analyst	12/20/2005	12/31/2008	36 Business Project Analyst Sr.	\$ 150.00	\$ 61.18	145.19%
	Tester	12/20/2005	12/31/2008	36 Testing Specialist	\$ 90.00	\$ 40.23	123.69%
	Project Manager	12/20/2005	12/31/2008	36 Project Manager	\$ 125.00	\$ 53.18	135.05%
	Project Controller MMS Nodal	12/20/2005	12/31/2008	36 Program Analyst	\$ 89.00	\$ 40.23	121.20%
	Siebel Application Dev	12/20/2005	12/31/2008	36 Applications Dev. Sr.	\$ 125.00	\$ 61.18	104.33%
	Oracle Database Admin	12/20/2005	12/31/2008	36 Database Administrator Sr.	\$ 110.00	\$ 70.38	56.30%
	Sr Database Admin	12/20/2005	12/31/2008	36 Database Administrator Sr.	\$ 110.00	\$ 70.38	56.30%
	Database Dev	12/20/2005	12/31/2008	36 Applications Dev. Sr.	\$ 95.00	\$ 61.18	55.29%
	Business Analyst	12/20/2005	12/31/2008	36 Business Project Analyst	\$ 95.00	\$ 46.26	105.35%
	Tester	6/5/2006	8/31/2008	26 Supervisor Testing	\$ 190.00	\$ 61.18	210.57%
Spherion Corp.	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 98.00	\$ 40.23	143.57%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 90.00	\$ 40.23	123.69%
	Release Coordinator	6/5/2006	8/31/2008	26 Release Coordinator	\$ 75.00	\$ 61.18	22.60%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 55.00	\$ 40.23	36.70%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist Sr.	\$ 110.00	\$ 46.26	137.77%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 88.00	\$ 40.23	118.72%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 98.00	\$ 40.23	143.57%
	Tester	6/5/2006	8/31/2008	26 Testing Specialist	\$ 83.00	\$ 40.23	106.29%
	Zonal Settlements and Billing	6/20/2006	7/31/2009	36 Settlements Analyst 1	\$ 85.00	\$ 35.92	136.64%
	IRT Project	6/20/2006	7/31/2009	36 Project Mgr. Sr.	\$ 170.00	\$ 61.18	177.88%
Structure Group	Program Manager for Nodal IRT	6/20/2006	7/31/2009	36 Market Redesign Manager	\$ 200.00	\$ 80.91	147.18%
	Commerical System Software for Nodal	6/20/2006	7/31/2009	36 Applications Dev. Sr.	\$ 145.00	\$ 61.18	137.02%
	Organization Design Analyst	6/20/2006	7/31/2009	36 Director HR	\$ 200.00	\$ 80.91	147.18%
	Power Systems Application Consultant	6/20/2006	7/31/2009	36 Applications Dev. Sr.	\$ 145.00	\$ 61.18	137.02%
	Project Manager for EDS 3	6/20/2006	7/31/2009	36 Project Manager Sr.	\$ 165.00	\$ 61.18	169.71%
	Settlements and Billing	6/20/2006	7/31/2009	36 Settlements Analyst Sr.	\$ 135.00	\$ 53.18	153.85%
	Project Mgmt for Nodal IRT	6/20/2006	7/31/2009	36 Project Manager Sr.	\$ 200.00	\$ 61.18	226.92%
	Commerical System Software	6/20/2006	7/31/2009	36 Applications Dev. Sr.	\$ 150.00	\$ 61.18	145.19%
	Sr Project Analyst - MMS	6/20/2006	7/31/2009	36 Program Specialist	\$ 185.00	\$ 61.18	202.40%
	Technical expertise for Commerical Ops	6/20/2006	7/31/2009	36 N/A	\$ 155.00	N/A	N/A
TEKsystems	Maintenance Support Analyst	9/11/2006	5/2/2008	20 Specialist Maintenance Support	\$ 45.00	\$ 22.85	96.97%
	Network Consultant	9/11/2006	5/2/2008	20 Network Administrator Sr.	\$ 120.00	\$ 53.18	125.65%
	Desk Side Support	9/11/2006	5/2/2008	20 Desk Side Support Tech	\$ 40.00	\$ 32.05	24.81%
	Sr Database Admin	9/11/2006	5/2/2008	20 Storage Administration Sr.	\$ 98.00	\$ 61.18	80.19%
	Business Analyst	9/11/2006	5/2/2008	20 Business Project Analyst	\$ 120.00	\$ 46.26	159.38%
	IT Business Consultant	9/11/2006	5/2/2008	20 Business Intelligence Analyst Sr.	\$ 80.00	\$ 53.18	50.43%
	Desk Side Support	9/11/2006	5/2/2008	20 Desk Side Support Tech	\$ 40.00	\$ 32.05	24.81%
	Technical Siebel Application	9/11/2006	5/2/2008	20 Applications Dev. Sr.	\$ 105.00	\$ 61.18	71.63%
	Tester	4/30/2007	8/31/2008	16 Testing Specialist Sr.	\$ 100.00	\$ 46.26	116.15%
	Tester	4/30/2007	8/31/2008	16 Testing Specialist Sr.	\$ 100.00	\$ 46.26	116.15%
Utility Systems	Market Apps	11/27/2006	11/23/2007	12 N/A	\$ 35,100.00	N/A	N/A
	Project Mgmt & Support for Nodal	12/1/2006	12/31/2007	12 Project Manager Sr.	\$ 175.00	\$ 61.18	186.06%
IBM	SAN Admin for Nodal	11/13/2006	11/9/2007	12 Database Administrator	\$ 51.86	\$ 20.75	149.90%

Exhibit D

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EXHIBIT D

Table 5.3
Defined Deliverables Retained to Conduct Nodal Market Related Work Activities

Company	ERCOT Defined Deliverable Service provided -Nodal Related	Start Date	End Date	Months	Cost	Hours
ABB Inc	business requirements, conceptual designs and business process	10/17/2006	12/31/2007	14	\$275.00	N/A
Adolf A. Hirsch	Project Mgmt for EMS & MMS	11/23/2006	4/3/2007	5	\$150.00	25693
AREVA	EMS for Nodal	3/16/2007	6/30/2008	15	\$225.00	40
AWS Truewind	Testimony for wind-pattern analysis	2/16/2007	12/31/2007	10	\$185.00	N/A
Benchmark Power Consulting	Market Participant Readiness Project Coordinator	8/16/2006	8/15/2007	12	\$175.00	2082
B&V	Sr. Project Manager	7/10/2006	8/10/2007	13	\$185.00	2416
Burns & McDonnell	Sr. Project Manager	7/10/2006	8/10/2007	13	\$163.00	N/A
ECCO International	NERC Gap Analysis	4/22/2007	7/23/2007	3	\$70,000.00	3915
Enterpulse	Training specialists for Nodal Protocols	3/1/2007	10/30/2008	19	\$137.00	1010
IBM	Web Dev for MMS Projects	3/1/2007	10/30/2008	19	\$110.00	N/A
KEMA	MIS Web Portals for Nodal Protocols	1/4/2007	12/31/2007	11	\$205.00	2104
Logic Trends	Internal Control Review	9/5/2006	9/30/2009	36	\$195.00	N/A
Media Mosaic	Detailed business requirements for Nodal	6/5/2006	8/3/2007	14	\$325,000.00	N/A
MTM Technologies	Identity Mgmt System for Nodal	6/5/2007	1/11/2008	7	\$170.00	1912
Nexant	Dev of Nodal Training materials	2/1/2007	12/31/2007	10	\$170.00	1833
PA Consulting	Citrix Presentation Server Enterprise v4.0	3/5/2007	9/30/2007	6	\$60,000.00	N/A
Perficient	Congestion Revenue Rights Phase II	3/21/2007	6/30/2009	15	\$2,496,000.00	N/A
Rome Corp	Nodal Market Redesign	9/21/2006	9/19/2008	24	\$2,610.00	N/A
Ross Baldwick	General Audit & General Exception Handler Software	6/7/2007	6/30/2008	12	\$4,577,760.00	48840
Siemens Power T&D	Credit Monitoring & Management	3/2/2007	12/17/2007	9	\$370,000.00	N/A
Utility Integration Solutions	Nodal Market Training	5/10/2007	3/31/2008	10	\$76,800.00	N/A
	Conceptual System Design for Phase 1	12/1/2006	8/30/2009	32	\$3,367,331.00	N/A
	Design Requirements for Nodal Intergration	4/1/2007	9/7/2007	5	\$3,500,000.00	N/A

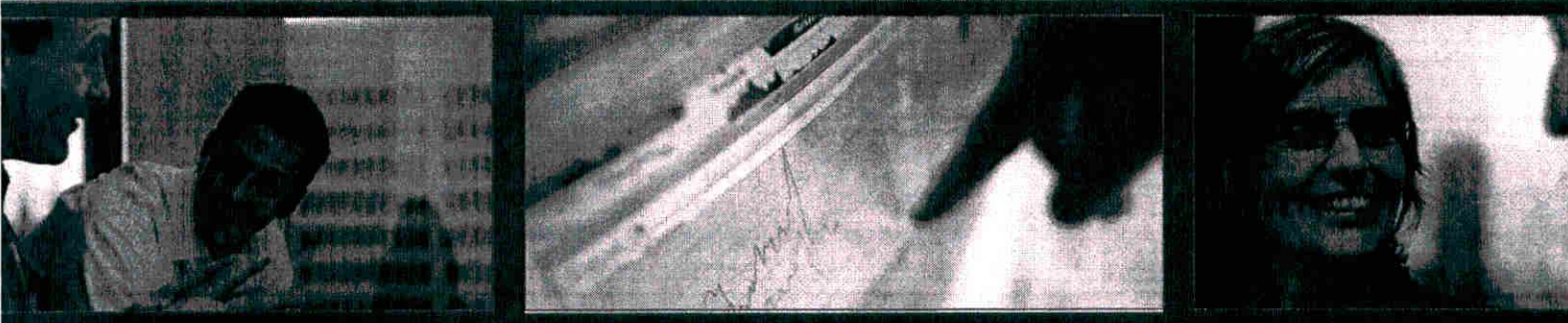


SUPPLEMENTAL REPORT

PROJECT NO. 34019 | RFP NUMBER: 473-07-00217

WORKFORCE ANALYSIS

OF THE ELECTRIC RELIABILITY COUNCIL OF TEXAS



PREPARED FOR: PUBLIC UTILITY COMMISSION OF TEXAS



APRIL 2008

R·W·BECK

Mind Powered: Insight with Impact.

SUPPLEMENTAL STAFFING REPORT

1.1 Introduction

In September 2007, R. W. Beck delivered the Organizational Assessment and Workforce Analysis of the Electric Reliability Council of Texas (ERCOT) draft report, which included preliminary findings and recommendations regarding the organizational structure and staffing levels at ERCOT. The preliminary recommendations presented in this draft report regarding the adequacy of current and proposed future staffing levels across all divisions and departments were based on R. W. Beck's understanding of each business unit's responsibilities and functional activities, a review of ERCOT's organization charts, a review of the Staffing Summary included in the 2008 Budget Staffing Summary prepared by ERCOT (2008 Staffing Summary), interviews with Directors, Vice Presidents and other key managers, and an assessment of the time worked by employees from January 1 to June 30, 2007 as tracked by the Lawson accounting system.

In the draft report, R. W. Beck commented that a more detailed job position task and skills analysis should be conducted wherein the workload for each position was examined and quantified to determine staffing needs for each business unit. In February 2008, ERCOT completed the "Deep Dive" staffing assessment which includes a detailed position analysis within its organization.

On February 5, 2008, ERCOT shared with R. W. Beck draft results from the Deep Dive job position task analysis showing the authorized full time equivalent (FTE) employees for 2008 and those requested for 2009. The number of FTEs presented by ERCOT in this document for various functional areas was different from the 2008 Fiscal Year Budget Staffing Summary that R. W. Beck used in September 2007 for the base case analysis.

As requested by the Public Utilities Commission of Texas (PUCT), R. W. Beck has reviewed the Deep Dive analysis conducted by ERCOT in areas where there is a difference in recommended FTEs between the 2008 previous Staffing Summary and ERCOT's Deep Dive analysis. In this supplemental report, R. W. Beck selected the criterion of a difference of three FTEs or more as a trigger for further analysis. Using this criterion, R. W. Beck's supplemental review focused on the following thirteen functional areas.

Within Corporate Administration:

- **Divisional Project Organization (DPO)**
- **Program Management Office (PMO) Planning, Quality and Reporting**



Within Information Technology:

- **System Engineering and Administration**
- **Storage Resource Management**
- **Commercial Operations**
- **EMMS Production Support**
- **Enterprise Information Services**
- **Corporate Applications**

Within Market Operations:

- **Settlement and Billing Operations**
- **Divisional Project Organization**

Within System Operations:

- **System Operations**
- **Market Operations**
- **Network Modeling**

1.2 Staffing Supplemental Review

Similar to Section 4 of the main report, each staffing section of this supplement presents a statement that describes our Finding regarding the adequacy of the staffing level for the functional area reviewed. The Finding statement for the various areas may repeat the Finding in the main report, if appropriate, or may be different based on the further analysis performed. The Background section includes a Future Situation description derived from ERCOT's 2008 Deep Dive assessment. Staffing Recommendations are based on the Background discussion provided.

1.3 Corporate Administration

In ERCOT various divisions/departments that provide overall support to the organization's operational areas are grouped under Corporate Administration. The 2008 Fiscal Year Budget Staffing Summary reviewed by R. W. Beck last year and ERCOT's 2008 Deep Dive analysis, shows a difference of three or more FTEs for two functional areas under Corporate Administration: Divisional Project Organization and PMO Planning, Quality and Reporting.

1.3.1 Program Management Office

Located within the Finance division, the Program Management Office (PMO) is responsible for the oversight of project management development and implementation within ERCOT.

Supplemental Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Program Management Office department appear to be inadequate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

ERCOT's 2008 Deep Dive review combines the areas under PMO (PMO, DPO, Planning, Quality and Reporting, and Program Administration) and presents staffing levels for the PMO as a whole. The 2008 Deep Dive draft explains that due to fluctuations in active projects, the PMO utilizes contractors to manage workload variability and thus is not staffed at the full task analysis level. In 2009, PMO staff currently performing Nodal activities is to begin addressing previously unmet tasks, such as training. Additionally, contractors backfilling for nodal support will be eliminated.

Recommendation S-1:

DPO: Based on the current workload for this area, it is our opinion that four to five FTEs are needed to support the work activities and responsibilities for this area. ERCOT's Deep Dive analysis shows that, once the Nodal Market is operational, this area will be dedicated to conduct unmet tasks and contractors will be eliminated. Based on the additional information provided by ERCOT's Deep Dive review, we recommend five to six FTEs to support the work activities for this area in 2009.

Planning, Quality and Reporting: Based on the current workload for this area, it is our opinion that five to six FTEs are needed to support the work activities and responsibilities for this area. ERCOT's Deep Dive analysis shows that, once the Nodal Market is operational, this area will be dedicated to conduct unmet tasks and contractors will be eliminated. Based on the additional information provided by ERCOT's Deep Dive review, we recommend six to seven FTEs to support the work activities for this area in 2009.

1.4 Information Technology Division

The staffing assessment conducted by R. W. Beck in 2007 reviewed the four departments within the Information Technology Division which include: Infrastructure and Operations, Application Services, Business and Customer Service, and Enterprise Architecture. The supplemental staffing analysis only focused on the following functional areas within the Information Technology division.

Within the Application Service department:

- Enterprise Information Services
- Corporate Applications

Within the Infrastructure and Operations Services department:

- System Engineering and Administration

- Storage Resource Management
- Commercial Operations
- EMMS Production Support

1.4.1 Application Services

The Applications Services department supports ERCOT's information technology application needs and it includes the following functional areas: Enterprise Integration, EMMS Development, Corporate Applications, Commercial Application Services, Enterprise Information Services, and Database Administration. This supplemental review only considered the Enterprise Information Services and Corporate Applications functional areas within Application Services.

Supplemental Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Enterprise Information Services and Corporate Applications functional areas appear to be inadequate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

Enterprise Information Services: The Enterprise Information Services provides data archiving, business intelligence, and database architecture and administration. Enterprise Information Services is responsible for storing real-time and historical information for data extraction, reporting, analysis, and decision support for market oversight by the PUCT and Independent Market Monitor. In regards to Data Warehouse application development and operations, this functional area handles a significant amount of data such as 34,000 extracts files per month, 208 million records per month, and 55 million ESIID intervals per month.

Corporate Applications: This functional area provides technical support, problem resolution, enhancements, upgrades and integrations for ERCOT's corporate applications. ERCOT's Deep Dive analysis identified additional tasks this functional area will be responsible for such as: Internal Identity Management, Market Participant Identity Management, Remedy, Livelink Enterprise Content Management, Market Readiness Advisor, Outage Notification, Budget Management and other miscellaneous activities such as Lawson vendor management and Mercury Test tools.

Recommendation S-2:

Enterprise Information Services: Based on the workload for this area in 2007, it was our opinion that 14 to 15 FTEs were needed to support the activities and responsibilities of this area at that time. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, such as establishing, maintaining and supporting massive databases. Based on the additional information provided by the Deep Dive review, we recommend 16 to 17 FTEs to support the work activities for this area in 2009.

Corporate Applications: Based on the workload for this area in 2007, it was our opinion that 16 to 17 FTEs were needed to support the activities and responsibilities of

this area at that time. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities as illustrated in the Deep Dive analysis. Based on the additional information provided by ERCOT's Deep Dive review, we agree with ERCOT's recommendation of 28 FTEs to support the work activities for this area in 2009.

1.4.2 Infrastructure & Operations Services

The Infrastructure and Operations Services department includes the following functional areas: Storage Engineering, Release Management, Console Operations, Network, System Engineering and Administration, Production Support, EMMS Production Support, and DPO. This supplemental review only considered the following areas within the Infrastructure and Operations Services department: System Engineering and Administration, Storage Resource Management, Commercial Operations, and EMMS Production Support.

Supplemental Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the functional areas within the Infrastructure and Operations Services department reviewed appear to be inappropriate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

System Engineering and Administration: The Deep Dive analysis shows that server growth at ERCOT is significant; in 2002 there were 240 servers, while in 2007 there are 1,150 servers. This area is faced with additional complexity in the Nodal environment as related to high availability cluster multi-processing, virtual machines, logical partitions, and system management and monitoring tools. This area anticipates being able to use improved toolsets and automation to reduce cycle time for tasks and will continue to automate work processes and utilize new management tools to improve productivity.

Storage Resource Management: The Deep Dive analysis shows that the storage growth for the organization is significant. In September 2007, when R.W. Beck conducted the staffing analysis, the data volume handled was 600 terabytes, in December 2007 the Deep Dive shows the data volume has increased to 700 terabytes in three months. Failures in ERCOT's storage environment can significantly impact operations. Additionally, contractors performing steady state work for this area will be eliminated.

Commercial Operations: The Deep Dive analysis shows that in the Nodal Market this functional area will assume support responsibilities for an additional eight applications and six new environments. In addition, the scope of work for the market portal has expanded as clarifications to the protocols have become available. Commercial Operations will rely heavily upon automation and support processes to manage the additional workload due to the Nodal Market.

EMMS Production Support: The Deep Dive analysis shows that this area will be faced with additional responsibilities under the Nodal Market, such as network model

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and management systems maintenance, congestion revenue rights maintenance, and database migrations that will be performed daily. Also, this area will be responsible for six additional EMMS applications.

Recommendation S-3:

System Engineering and Administration: In our draft report we considered that based on the workload for this area in 2007, 27 to 28 FTEs were needed to support the activities and responsibilities of this area at that time and that an additional five FTEs should be considered for 2008. ERCOT's Deep Dive analysis explains that efficiencies are anticipated to be gained through automation and new tools, therefore, we agree with ERCOT's Deep Dive analysis that in 2009, the staffing level for this area should be reduced to 23 FTEs.

System Resource Management: Based on the workload for this area in 2007, it was our opinion that seven to eight FTEs were needed to support the activities and responsibilities of the area at that time. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities associated with the increased data volumes. Based on the additional information provided by ERCOT's Deep Dive review, we agree with ERCOT's recommendation of 16 FTEs to support the work activities for this area in 2009.

Commercial Operations: Based on the workload for this area in 2007, it was our opinion that 15 to 16 FTEs were needed to support the activities and responsibilities of this area in 2007. As the workload increases due to the Nodal Market development and implementation as explained in the Deep Dive analysis, we agree with ERCOT's recommendation of 22 FTEs to support the work activities of this area in 2008 and 2009.

EMMS Production Support: Based on the workload for this area in 2007, it was our opinion that 16 to 17 FTEs were needed to support the activities and responsibilities of this area in 2007. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. Therefore, we recommend 18 FTEs in 2008 (as presented in the original 2008 Staffing Summary) and 20 FTEs in 2009 (as presented in ERCOT's Deep Dive analysis).

1.5 Market Operations

The staffing assessment reviewed the two departments within Market Operations which are Commercial Operations and Market Services. This supplemental staffing review only focused on the following functional areas within the Market Operations division: Settlements and Billing, and DPO.

1.5.1 Commercial Operations

The Commercial Operations department acts as the centralized hub for managing the retail electric transactions. The Commercial Operations department includes the following functional areas: Settlement Metering, Energy Analysis and Aggregation,

Settlements and Billing Operations, Retail Customer Choice, Data Integrity and Administration. This supplemental staffing review only focused on the Settlements and Billing Operations area within Commercial Operations.

Supplemental Finding: *The staffing level presented in the 2008 Staffing Budget Summary for Settlements and Billing Operations area appears to be inadequate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

Settlement and Billing Operations: The Deep Dive analysis describes significant changes between Zonal and Nodal operations for this functional area. This area will manage increased complexity and functionality of Nodal operations related to Day Ahead Market settlements, Real Time Market settlements, and congestion revenue right settlements. In addition, the Zonal market settlements will continue at least six months into Nodal Market operations.

Recommendation S-4:

Settlement and Billing Operations: R. W. Beck's analysis showed that five employees from this area in 2007 were supporting Nodal Market implementation and overtime levels were below ten percent. Based on the workload for this area in 2007, it was our opinion that 12 to 13 FTEs, and the additional five FTEs working on the Nodal project, were needed to support the activities and responsibilities of this area in 2007. R. W. Beck agrees with the 2008 Staffing Summary and ERCOT's Deep Dive analysis, that in 2008, 23 FTEs are needed to support the workload in this area. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. Two additional FTEs for 2009 are considered adequate to support this area as presented in ERCOT's Deep Dive analysis.

1.5.2 Market Services

The Market Services department is responsible for providing support to wholesale market participants such as Qualified Scheduling Entities (QSEs), processing system change requests regarding protocol revisions, managing retail transactions and testing systems to ensure they support market operations.

This supplemental staffing review only focused on the DPO area within the Market Services department.

Supplemental Finding: *The staffing level presented in the 2008 Staffing Budget Summary for the DPO area appears to be inappropriate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

DPO: The Deep Dive analysis shows that in 2008, seven FTEs are eliminated due to efficiencies gained through organizational realignments and reduced non-nodal project work. The analysis shows that in 2009, an additional two FTEs are requested for market participant post nodal go-live training needs and MIS business support following going live with the Nodal Market.

Recommendation S-5:

DPO: Based on the workload for this area in 2007, it was our opinion that 11 to 12 FTEs were needed to support the activities and responsibilities of this area at that time. In 2008, efficiencies were to be gained due to organizational realignments, and therefore, nine FTEs are recommended by ERCOT's Deep Dive analysis. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities. We recommend increasing the FTEs to the 2007 levels of 11 to 12 FTEs.

1.6 System Operations Division

Our staffing assessment conducted in 2007 included a review of all the departments within the System Operations division. This supplemental analysis only focused on the following functional areas within the Grid Operations and Wholesale Market Operations departments:

- System Operations
- Market Operations
- Network Modeling

1.6.1 Grid Operations

The Grid Operations department is responsible for operating the electric grid in the ERCOT region. The supplemental staffing review focused on the System Operations functional area located in this department.

Supplemental Finding: *The staffing level presented in the 2008 Staffing Budget Summary for the System Operations area appears to be inappropriate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

System Operations: The Deep Dive analysis states that for this functional area, the 2008 Budget numbers reflect increased staff required to support Nodal Market testing. The analysis also mentions that there is a plan to eliminate a second back-up desk in order to bring headcount from 50 to 44 in 2009. However, the functional area is requesting one additional FTE to support administrative tasks. The task analysis shows 46 FTEs for 2009. Grid Operations is to handle the remaining deficit through overtime and task prioritization.

Recommendation S-6:

Systems Operations: Based on the workload for this area in 2007, it was our opinion that 54 to 55 FTEs were needed to support the activities and responsibilities of this area in 2007. Greater efficiencies are expected to be gained once the system implemented to support the Nodal Market is operational, which would allow a reduction in work force to 53 FTEs in 2008 and 50 FTEs in 2009.

1.6.2 Wholesale Market Operations

The Wholesale Market Operations department is responsible for producing market operations reports, real-time operation activity support, market operations systems testing, market monitoring, demand response tasks, network modeling and market design and development. This supplemental staffing review focused on the two functional areas that make up this department: Market Operations and Network Modeling.

Supplemental Finding: *The staffing levels presented in the 2008 Staffing Budget Summary for the Wholesale Market Operations department appear to be adequate.*

Background

Future Situation (as presented by ERCOT's 2008 Deep Dive Draft)

Market Operations: This functional area provides price verification, operator support, market system development and demand side programs. The Deep Dive analysis also shows that the Nodal market adds a Day Ahead Energy Market requirement and also that ERCOT co-optimize Ancillary Service, Energy and congestion revenue rights, which impacts the workload for this functional area. Nodal operations will produce approximately 7,000 locational marginal prices every five minutes in comparison to the one to four prices every fifteen minutes produced in the Zonal market. Other responsibilities for this area include: Replacement reserve service executed once a day, validation of models twice a day instead of every two weeks, evaluation of system operations impact on prices, development of business requirements for Nodal Market systems, and presentations/studies for market participants.

Network Modeling: The Deep Dive analysis describes that this area will be substantially impacted by revised protocol requirements, such as 114 network models and eight network cases per day instead of one network model and one case every two weeks. The analysis also states that this area will require additional time for analysis.

Recommendation S-7:

Market Operations: Based on the workload for this area in 2007, it was our opinion that 22 to 23 FTEs were needed to support the activities and responsibilities of this area at that time. Once the Nodal Market is operational, the workload for this area is expected to increase due to new work activities and responsibilities, and therefore we agree with staffing levels presented in the Deep Dive analysis of 25 FTEs in 2008 and 26 FTEs in 2009.

Network Modeling: Based on the workload for this area in 2007, it was our opinion that 11 to 12 FTEs were needed to support the activities and responsibilities of this area today. The workload for this area is expected to increase due to new work activities and responsibilities associated with the development and implementation of the time-based network model. Therefore, in 2008 we recommend increasing the staffing level to 14 FTEs, and to 21 FTEs in 2009, as presented in the Deep Dive analysis.

1.7 Staffing Summary

ERCOT's Deep Dive analysis provided additional information that was used to validate and refine R. W. Beck's staffing recommendations for the 13 functional areas reviewed in this Supplemental draft report. The following table summarizes the staffing levels recommended for these functional areas based on R. W. Beck's workforce analysis and additional data made available through the Deep Dive assessment.

Table S-1
Corporate Administration Staffing Recommendations (FTEs)

Division/Department	2007	2008	2009	Comments
Divisional Project Organization	5	5	6	Once Nodal Market is operational, DPO will conduct unmet tasks; contractors eliminated
Planning, Quality & Reporting	6	6	7	Once Nodal Market is operational, DPO will conduct unmet tasks; contractors eliminated

Table S-2
Information Technology Staffing Recommendations (FTEs)

Division/Department	2007	2008	2009	Comments
Application Services				
Enterprise Info Services	15	17	17	Workload expected to increase with Nodal Market
Corporate Applications	17	17	28	Workload expected to increase with Nodal Market
Infrastructure & Operations Services				
System Engineering & Administration	28	33	23	Reduction in FTEs possible due to automation & new tools
Storage Resource Management	8	8	16	Workload expected to significantly increase with Nodal Market
Commercial Operations	16	22	22	Workload expected to increase with Nodal Market
EMMS Production Support	17	18	20	Workload expected to increase with Nodal Market

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Table S-3
Market Operations Staffing Recommendations (FTEs)

Division/Department	2007	2008	2009	Comments
Commercial Operations				
Settlements & Billing Operations	13	23	25	Workload expected to increase with Nodal Market
Market Services				
DPO	12	9	11	Organizational realignment leads to efficiencies allowing reduction in FTEs since 2007

Table S-4
System Operations Staffing Recommendations (FTEs)

Division/Department	2007	2008	2009	Comments
Grid Operations				
System Operations	55	53	50	Efficiencies gained would allow reduction in FTEs
Wholesale Market Operations				
Market Operations	23	25	26	Workload expected to increase with Nodal Market
Network Model	12	14	21	Workload expected to increase with Nodal Market

R. W. Beck's supplemental staffing review concludes that in 2008, ERCOT will need approximately 682 FTEs. This figure does not include the administrative or Nodal Market project positions, or Enterprise Architecture personnel, which equal an additional 29 FTEs, as presented in the 2008 Staffing Summary.

In 2009, R.W. Beck's supplemental review shows that ERCOT will need approximately 690 FTEs. This figure does not include the administrative positions or Enterprise Architecture personnel, which equal an additional 35 FTEs of the personnel for Enterprise Architecture (7 FTEs), as presented in the 2008 Staffing Summary.

Summary tables listing the FTEs for each division are included under Exhibit S-A of this supplemental report. Quantities shown under the ERCOT Recommendations column heading in Exhibit S-A are the staffing numbers from ERCOT's 2008 Staffing Summary produced in 2007. Quantities shown under the R. W. Beck Recommendations column heading are taken from the main report as modified (where applicable) by the supplemental report.

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Exhibit S-A

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EXHIBIT S-A

Summary Table 1
Corporate Administration

Division/Dept.	ERCOT Recommendations			R. W. Beck Recommendations			Comments
	Pre-nodal	2008	2009	2007	2008	2009	
Executive	4	4	4	4	5	5	Restructure Executive team – reduce to 5 members
Finance							
Treasury & Credit Administration	6	9	9	8	9	9	Workload expected to increase with Nodal Market. Recommendation to remove Enterprise Risk Mgmt from under this area.
Contract Administration & Procurement	10	12	10	12	12	12	
Controller							
Internal Control Mgmt. Program Accounting & Budget	3 17	3 19	3 18	3 19	3 19	3 19	Consolidate ICMP with Risk Management Based on workload analysis done in 2007
Program Management Office	1	1	1	1	1	1	One FTE, no further analysis conducted
Divisional Project Organization*	2	6	2	5	5	6	Once Nodal is operational, DPO & Planning, Quality, & Reporting will conduct unmet tasks, contractors eliminated
Planning, Quality & Reporting*	5	6	5	6	6	7	
Program Administration	3	4	4	4	4	4	Workload expected to remain stable
General Counsel	20	20	20	20	20	20	Workload expected to remain stable
HR & Organizational Development	10	11	11	11	11	12	
Internal Audit	7	7	7	7	7	7	Workload expected to remain stable
Facilities & Site Development	12	14	13	16	16	14	Workload expected to decrease once Nodal
Information Systems Security	10	11	10	12	12	10	Workload expected to decrease once Nodal
Physical Security	3	4	3	4	4	3	Workload expected to decrease once Nodal
Total Corporate Administration	113	131	120	132	134	131	

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Summary Table 2
Information Technology

Division/Dept.	ERCOT Recommendations			R. W. Beck Recommendations			Comments
	Pre-nodal	2008	2009	2007	2008	2009	
Nodal Market Redesign	---	---	---	---	---	---	Not a division/dept. therefore not reviewed
CIO Administration	5	7	5	---	---	---	CIO included under Executive team. Additional admin. Support not a division/dept. therefore not reviewed
Application Services							
EMMS Development	7	17	16	12	17	17	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Enterprise Integration	6	10	9	7	10	10	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Enterprise Information Services*	16	19	17	15	17	17	Workload expected to increase with Nodal
Commercial Services	13	15	15	15	15	15	Workload expected to increase with Nodal
Corporate Applications*	17	18	18	17	17	28	Workload expected to increase with Nodal
Database Administration	8	10	9	9	10	10	Workload expected to increase with Nodal
Infrastructure & Operations Services							
System & Engineering Administration*	19	23	19	28	33	23	Workload expected to increase with Nodal
Storage Resource Management*	6	8	7	8	8	16	Workload expected to increase with Nodal
Network	12	12	10	13	13	10	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Console Operations	15	13	13	13	13	13	

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Commercial Operations*	19	19	17	16	22	22	Workload expected to increase with Nodal
Release Management	6	7	7	7	7	7	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
EMMS Production Support*	13	18	17	17	18	20	Workload expected to increase with Nodal
DPO	3	4	3	4	4	3	
Technical Services Administration	4	4	4	4	4	4	
Enterprise Architecture	5	8	7	----	----	----	Insufficient information available at the time the staffing analysis was conducted
Total Information Technology	174	212	193	185	208	215	

Note:

*Nodal Market Redesign shows 0 FTEs in the 2008 Staffing Summary, 9 FTEs in 2008 in ERCOT's Deep Dive analysis and 0 FTEs in 2009.

**CIO Administration in the 2008 Staffing Summary lists an additional 7 FTEs in 2008 and 5 in 2009. ERCOT's Deep Dive analysis lists 4 FTEs in 2008 and 5 FTEs in 2009.

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**Summary Table 3
Market Operations**

Division/Dept.	ERCOT Recommendations				R. W. Beck Recommendations			Comments
	Pre-nodal	2008	2009	2009	2007	2008	2009	
CMO Administration	6	6	6	6	---	---	---	Not a division/dept. therefore not reviewed
Commercial Operations								
Settlement Metering	10	10	10	10	8	10	10	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Energy Analysis & Aggregation	10	10	10	10	12	10	10	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Settlements & Billing Operations*	19	23	22	22	13	23	25	Workload expected to increase with Nodal
Retail Customer Choice	22	21	18	18	22	21	18	Improvement in business processes allows for a reduction in FTEs
Data Integrity & Administration	6	7	8	8	5	7	8	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Market Services								
Market Rules	8	9	9	9	9	9	9	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
DPO*	13	16	9	9	12	9	11	Organizational realignment leads to efficiencies allowing reduction in FTEs
Retail Client Services & Retail Market Analysis	9 4	9 4	9 4	9 4	13	13	13	Analysis done in conjunction for these areas
Market Operations Testing	22	30	27	27	21	30	27	Workload expected to increase with Nodal.

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										Not analyzed by R. W. Beck in supplemental report
Wholesale Client Services	15	19	19	19	15	19	19	19	19	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Total Market Operations	144	164	151	130	151	151	151	151	150	

Note: *CMO Administration in the 2008 Staffing Summary lists 6 FTEs in 2008 and 2009. ERCOT's Deep Dive analysis lists 7 FTEs in 2008 and 6 FTEs in 2009

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Summary Table 4
System Planning

Division/Dept.	ERCOT Recommendations			R. W. Beck Recommendations			Comments
	Pre-nodal	2008	2009	2007	2008	2009	
CMO Administration							
System Planning							
Transmission & Regional Planning	24	26	26	23	26	26	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Congestion Management	2	7	7	4	7	7	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Regulatory Reporting	4	4	4	4	4	4	
Planning Administration	4	4	4	---	---	---	Not a division/dept. therefore not reviewed
Total System Planning	34	41	41	31	37	37	

Note: *Planning Administration in the 2008 Staffing Summary and ERCOT's Deep Dive analysis lists 4 FTEs in 2008 and 2009.

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Summary Table 5
System Operations

Division/Dept.	ERCOT Recommendations			R. W. Beck Recommendations			Comments
	Pre-nodal	2008	2009	2007	2008	2009	
System Operations							
System Operations Administration	3	4	4	---	---	---	Not a division/dept. therefore not reviewed
Operating Standards	2	4	4	3	4	4	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
Grid Operations							
DPO & Operator Training	13	13	13	13	13	13	Workload expected to remain stable
Operations Support, Planning, Engineering, Outage Coordination & Advanced Network Applications	34	43	39	43	43	43	Workload expected to increase with Nodal. Not analyzed by R. W. Beck in supplemental report
System Operations	50	53	50	55	53	50	Efficiencies gained would allow reduction in FTEs
Wholesale Market Operations							
Market Operations	15	24	21	23	25	26	Workload expected to increase with Nodal
Network Model	11	14	13	12	14	21	Workload expected to increase with Nodal
Total System Operations	128	155	144	149	152	157	

Note: * System Operations Administration in the 2008 Staffing Summary lists 4 FTEs in 2008 and 2009. ERCOT's Deep Dive analysis lists 4 FTEs in 2008 and 3 FTEs in 2009.