

**DOCKET NO. 35785**

<b>APPLICATION OF THE ELECTRIC</b>	<b>§</b>	<b>PUBLIC UTILITY COMMISSION</b>
<b>RELIABILITY COUNCIL OF TEXAS</b>	<b>§</b>	
<b>FOR APPROVAL OF THE ERCOT</b>	<b>§</b>	<b>OF TEXAS</b>
<b>SYSTEM ADMINISTRATION FEE</b>	<b>§</b>	

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SYSTEM ADMINISTRATION FEE	§	

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RELIABILITY COUNCIL OF TEXAS	§	
FOR APPROVAL OF THE ERCOT	§	OF TEXAS
SYSTEM ADMINISTRATION FEE	§	

**APPLICATION FOR APPROVAL OF ERCOT SYSTEM ADMINISTRATION FEE**

**TO THE HONORABLE PUBLIC UTILITY COMMISSION OF TEXAS:**

The Electric Reliability Council of Texas, Inc. (“ERCOT”) hereby submits this Application for Approval of the ERCOT System Administration Fee.

**I. Jurisdiction**

The Commission has jurisdiction over this Application pursuant to the Texas Public Utility Regulatory Act (“PURA”)<sup>1</sup> and the Commission’s Rules.<sup>2</sup> ERCOT is an independent organization certified by the Commission.<sup>3</sup>

**II. Introduction and Summary**

In this application, ERCOT requests Commission approval of the following proposed changes in the fees it charges:

- (1) An increase in the System Administration Fee to \$0.5698 per MWh;
- (2) An increase in the Security Screening Study fee that is part of ERCOT’s Generation Interconnection or Change Request procedure. The new fee would charge \$10,000 to \$15,000 for each study based on the megawatts of generation capacity proposed, with additional charges for larger projects.
- (3) Elimination of the Texas Non-ERCOT Load Serving Entity Fee.

ERCOT requests a January 1, 2009 effective date for the fees proposed in this proceeding.

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<sup>1</sup> PURA § 39.151(e).

<sup>2</sup> P.U.C. Proc. R. 22.252 & P.U.C. Subst. R. 25.361(i).

<sup>3</sup> PURA § 39.151(e). Certified in PUC Docket No. 22061.

The proposed modification to the ERCOT System Administration Fee has the largest impact of these changes, both on ERCOT and on Market Participants. ERCOT's System Administration Fee request is "based upon ERCOT's cost of performing its required functions as described in PURA §39.151(a)." P.U.C. SUBST. R. § 25.363(c). ERCOT's application is based on a future test year of calendar year 2009, which corresponds to ERCOT's fiscal year 2009. Test year revenue requirements are based on ERCOT's Budget for fiscal year 2009, which was approved by the ERCOT Board of Directors on May 20, 2008. ERCOT bases its request on a future test year because "the scope of its activities and functions has been expanded by the Commission or the Market Participants, resulting in higher future costs." P.U.C. SUBST. R. § 25.363(c). The materials filed by ERCOT as part of its Fee Filing Package demonstrate that ERCOT seeks to recover through its fees "only those expenses that are reasonable and necessary to carry out the functions" defined by PURA § 39.151, Commission Orders and Rules, and the ERCOT Protocols. All of the expenses ERCOT seeks to recover from its modified fees are "allowable expenses," for purposes of P.U.C. SUBST. R. § 25.363(c)(2).

### **III. Relief Requested**

ERCOT seeks Commission approval of a System Administration Fee that will ensure ERCOT has sufficient revenue to support high level performance of both its historic responsibilities and the new duties that are already shaping ERCOT's activities. ERCOT is mindful that its work is ultimately funded by Texas ratepayers, and it does not request an increase in its fees without careful consideration of whether the fees are necessary to meet ERCOT's revenue requirement. At the same time, ERCOT is mindful that the new duties it must undertake stem from state and federal policies directed toward the goals of maintaining reliability, promoting energy alternatives, and creating and maintaining efficient markets. These policy goals are also intended to benefit Texas ratepayers, and ERCOT must have sufficient resources to implement the often highly technical tools chosen to effectuate state and federal policy.

By maintaining system reliability, operating the most successful wholesale and retail markets in the nation, and moving forward to deliver a Nodal market that will serve Texans well for years to come, ERCOT strives to perform extremely valuable work for those it serves.

ERCOT estimates that if its System Administration Fee request is approved by the Commission, the average Texas household will pay far less than \$1 per month for everything provided by ERCOT. While that is certainly higher than today's fees, it still totals only \$9.19 per year. Moreover, ERCOT expects overall fees to decrease after the Nodal implementation costs are recovered and the Nodal surcharge is no longer collected. In light of all the services ERCOT provides and the critical infrastructure it maintains, the evidence shows that ERCOT's budget and proposed fees are reasonable.

The key elements of ERCOT's request for relief in this proceeding are as follows:

**A. Approval of a System Administration Fee of \$0.5698 per MWh, effective January 1, 2009.**

The System Administration Fee funds ERCOT's base operations, debt service, and revenue funded project activities. The System Administration Fee also funds the activities of the Independent Market Monitor ("IMM"), and covers the funding of the non-statutory services performed by the Texas Regional Entity ("Texas RE") pursuant to the ERCOT Protocols. The Texas RE is an independent division of ERCOT, and its non-statutory services are funded from the System Administration Fee.<sup>4</sup>

ERCOT's prudent stewardship of its finances in recent years has enabled it to maintain the System Administration Fee at \$0.4171 per MWh since the Commission last approved the fee in 2006. In the two years since the Commission last reviewed the System Administration Fee, there have been many changes affecting ERCOT in the Texas electric market. With the approval of the Nodal Protocols in 2006, work on Nodal market implementation began in earnest. The transition from the Zonal to the Nodal market is a monumental undertaking, but it is the day-to-day operation of the Nodal market that will have a lasting impact on all aspects of ERCOT's business. In addition, there has been an increased emphasis on reliability standards and their enforcement in recent years. Since 2006, ERCOT has focused significant attention and resources on the Energy Policy Act compliance framework and has seen an increased workload associated

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<sup>4</sup> The specific funding request of the Texas RE is detailed in the Direct Testimony of Chief Executive Officer Larry Grimm. As described herein, Texas RE is represented in this proceeding by counsel separate from ERCOT counsel, as contemplated by the agreements and practices established to maintain Texas RE's independent status within the ERCOT organization.

with the development of, and compliance with, mandatory standards applicable to ERCOT markets and operations. The 2009 ERCOT Budget reflects the expenses that will be necessary for ERCOT to complete its work in these and other areas in the years to come.

ERCOT's 2009 Budget has been the subject of a rigorous process involving ERCOT personnel at all levels of the organization, as well as ERCOT's many stakeholders. In developing its headcounts for the future, ERCOT management examined the tasks assigned to all employees in every division and department of the organization. The analysis of staffing and budget was conducted from the bottom up, using the comprehensive "deep dive" analysis process discussed in the direct testimony of ERCOT's witnesses. The ERCOT Finance & Audit Committee and the full ERCOT Board conducted a thorough budget review process. In addition, ERCOT conducted a public meeting, discussed financial concepts and assumptions with Commission staff, and presented budget details at several public meetings of the Finance & Audit Committee.

The transition from the Zonal to the Nodal market will occur during ERCOT's 2009 budget year (ERCOT Budgets on a calendar year basis). As ERCOT recently announced, the Go-Live date for the Nodal market is under review due to delays in delivery of certain mission critical software applications. The budget approved by ERCOT's Board of Directors assumes that the operation of Nodal market systems is part of ERCOT's "base operations" for purposes of the 2009 budget. As the Commission is aware, Nodal development costs are funded from the Nodal surcharge rather than from the System Administration Fee. Therefore, if ERCOT continues to incur Nodal development costs during 2009 due to the delay of Nodal Go-Live, ERCOT may need to review the attribution of certain expenditures and also seek the guidance of the Commission to determine whether they should be funded as part of ERCOT base operations or as part of Nodal development. ERCOT will report on this issue after a new Nodal implementation schedule has been adopted, and will consider filing supplemental testimony and financial information in this docket as necessary to clarify the impact of Nodal developments on the 2009 ERCOT Budget and the proposed System Administration Fee.

**B. Approval of Other Changes to ERCOT's Fee Schedule.**

In addition to the System Administration Fee, ERCOT's proposed Fee Schedule includes three changes from the existing Fee Schedule included in the ERCOT Protocols.

1. Addition of the "NERC Electric Reliability Organization Fee" ("ERO Fee") to the ERCOT Fee Schedule. ERCOT began collecting the ERO Fee in 2007, but the proceeds of the fee are not used to fund ERCOT operations. Rather, the ERO Fee is a federally mandated pass-through charge established to recover an amount approved by FERC, and assessed by NERC for the ERCOT region's share of the annual operating costs of the ERO and the full costs of the Texas RE. NERC notifies ERCOT annually of the amount that must be recovered via the ERO Fee. ERCOT includes it here for the Commission's information, but notes that the fee is determined by FERC.

2. New structure for the Security Screening Study Fee. ERCOT Security Screening Studies, also called "generation interconnection studies," provide a preliminary assessment of the impact on the ERCOT transmission system of a proposed generation plant. The studies are prepared by ERCOT System Planning personnel for entities considering investments in generation facilities in the ERCOT region. The rationale for the change in the Security Screening Study fee is discussed in the direct testimony of ERCOT Vice-President of System Planning Bill Bojorquez. The proposed Security Screening Study fee would be based on the following schedule:

Interconnect MW Level	Fee	Comments
1 to 149 MW	\$10,000	One request, one site, one voltage level
150 MW and above	\$15,000	
Each additional voltage level	\$5,000	Test additional voltage level 1 MW and above

3. Elimination of the Non-ERCOT Load Serving Entity Fee. The Non-ERCOT Load Serving Entity ("LSE") Fee was originally intended to be assessed to LSEs operating in areas within Texas but outside of the ERCOT region where customer choice is in effect. The fee was originally intended for development and use of the statewide customer registration system administered by ERCOT. At the inception of this fee, it was expected the Non-ERCOT LSE Fee would generate revenue of more than \$1 million per year. However, since implementing the

Non-ERCOT LSE Fee, all but one LSE has sought and received legislative or regulatory exemptions from paying it. In 2008, the fee was collected from a single entity. ERCOT's 2009 budget assumes elimination of the Non-ERCOT LSE Fee on January 1, 2009 because most LSEs are now exempted from paying the Non-ERCOT LSE Fee, the Non-ERCOT LSE fee is of diminishing financial significance to ERCOT, and the registration system and associated applications and hardware put in place at the same time the fee was instituted are now fully depreciated.

**C. Commission policy determination regarding allocation of the System Administration Fee.**

The System Administration Fee “is charged to all Qualified Scheduling Entities (QSEs) based on Load represented.”<sup>5</sup> The allocation of ERCOT's fees is addressed in PURA § 39.151(e), which provides that the Commission “may authorize [ERCOT] to charge a reasonable and competitively neutral rate to wholesale buyers and sellers to cover [its] costs.” Pursuant to Commission orders and the ERCOT Protocols now in effect, ERCOT bills the System Administration Fee to QSEs representing load, and bills the Nodal surcharge to QSEs representing generation.

The allocation of ERCOT's fees has generated significant controversy in past cases before the Commission. In 2007, the Commission opened Project No. 34889, *PUC Rulemaking Relating to Allocation of the Administrative Fee of the Electric Reliability Council of Texas*, to consider alternatives for addressing the issue. The Commission hosted a workshop in the Project on February 5, 2008. In anticipation of ERCOT's System Administration Fee application, the Commission requested that ERCOT gather information to facilitate the Commission's consideration of the appropriate, long-term allocation of ERCOT's System Administration Fee.<sup>6</sup> In particular, the Commissioners asked ERCOT to examine the activities delineated in its employee time-tracking system, and attempt to allocate employee hours between work spent on tasks related to generators, and work spent on tasks related to load. ERCOT prepared the information requested by the Commission and provided its findings to the Commission, the

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<sup>5</sup> ERCOT Fee Schedule; ERCOT Protocol 9.7.1.

<sup>6</sup> Project No. 34889, February 5, 2008 Workshop, Tr. at 35-38.



Office of Public Utility Counsel (“OPC”), and all parties of record in ERCOT’s most recent System Administration Fee case and its Nodal surcharge cases. ERCOT discussed its findings on workload allocation with all interested parties at a workshop held on May 6, 2008. The discussion of allocation issues in the workshop setting was intended to permit discussion of the requested data prior to the filing of ERCOT’s System Administration Fee application, in large measure to avoid protracted discovery concerning the issue in the System Administration Fee case.<sup>7</sup>

The direct testimony of ERCOT President & Chief Executive Officer Bob Kahn presents ERCOT’s analysis. In summary, the analysis showed that for 2007 hours reported, 55% were found to be directed toward activities related to buyers of wholesale electricity (load), and 45% were found to be directed toward activities related to sellers of wholesale electricity (generation). If the Commission determines as a policy matter that the division of ERCOT activities between the buyer and seller categories provides the most reasonable basis for allocating ERCOT’s fees, ERCOT’s analysis provides a reasonable basis for estimating the percentage of ERCOT employee activities found to be directed toward activities related to wholesale buyers and sellers of electricity.

If the Commission’s policy determination on allocation of the System Administration Fee maintains ERCOT’s core billing relationship with QSEs, ERCOT believes that it could accomplish implementation of the Commission’s decision in a manner similar to that undertaken when the Commission ordered the Nodal surcharge be collected from QSEs representing generation. Currently, all of ERCOT’s fees are billed 100% to either load or generation. Therefore, if the Commission determines that the System Administration Fee be split between QSEs representing load and generation, ERCOT requests that the Commission provide ERCOT a reasonable time before the Final Order is issued in this case to propose a specific billing formula to achieve the Commission’s policy decision. A similar process was effective in Docket No. 32686 when the Commission ordered ERCOT to adopt a new allocation formula for the Nodal surcharge.

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<sup>7</sup> *Id.* at 38 (Commissioner Parsley: “[T]his isn’t, in my opinion, something that should become a hugely contested item in the fee case in terms of RFIs and depositions for the different individual things that [ERCOT is] categorizing.”).

#### **IV. CONTENTS OF FEE FILING PACKAGE SUPPORTING ERCOT'S APPLICATION**

Pursuant to P.U.C. PROC. R. § 22.252(c), ERCOT files together with its Application the materials required by the Commission's approved ERCOT Fee Filing Package. These materials include the following:

##### **A. Direct Testimony**

In support of its Application, ERCOT files the direct testimony of ten (10) witnesses. These witnesses address all aspects of ERCOT's budget and operations, and ERCOT's proposals for funding them. ERCOT's witnesses (listed below) include the officers of the organization, including the leadership of all of ERCOT's divisions. In addition, ERCOT's Fee Filing Package includes the direct testimony of Texas RE Chief Executive Officer Larry Grimm, which describes the Texas RE's requirements for the non-statutory functions that are funded by the System Administration Fee.

<u>WITNESS</u>	<u>TITLE</u>
Bob Kahn	President & Chief Executive Officer
H. B. "Trip" Doggett	Senior Vice President & Chief Operating Officer
Raymond A. Giuliani	Vice President & Chief of Market Operations
Ronald J. Hinsley	Vice President and Chief Information Officer
Steve Byone	Vice President and Chief Financial Officer
Bill Bojorquez	Vice President of System Planning
Kent Saathoff	Vice President of System Operations
Nancy Capezzuti	Vice President of Human Resources and Organizational Development
Michael W. Petterson	Controller
Steven Grendel	Director of Facilities and Site Development
Larry Grimm	Texas RE Chief Executive Officer

ERCOT's direct testimony is of "sufficient scope and detail to meet ERCOT's burden of proof to justify the proposed" System Administration Fee.<sup>8</sup> ERCOT requests that, as part of the establishment of a procedural schedule in this docket, ERCOT be given the opportunity to file rebuttal testimony in response to testimony filed by intervenors, Commission Staff, or OPC.

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<sup>8</sup> See ERCOT Fee-Filing Package, General Instructions, Item 12.

**B. Schedules**

Pursuant to the requirements of the ERCOT Fee Filing Package, ERCOT files the following Schedules. The numbering of the Schedules follows the numbering convention in the ERCOT FFP for Future Test Year Schedules.

Schedule 1 – Revenue Requirement and ERCOT System Administration Fee Summary

Schedule 2 – Summary of Estimated Income Sources

Schedule 3 – Sources and Uses of Funds Summary

Schedule 4 – Divisional Expenses by Expense Type

Schedule 5 – Divisional Expenses by Department

Schedule 6 – Summary of Divisional Expenses by Expense Type

Schedule 7 – 2008 Operating Activity Budget to Actual Comparison at April 30, 2008

Schedule 8 – 2009 Project Funding

Schedule 9 – 2008 Project Budget to Actual Comparison at April 30, 2008

Schedule 10 – Pro Forma Statements of Financial Position

Schedule 11 – Pro Forma Statements of Activities

Schedule 12 – Pro Forma Statement of Cash Flows

Schedule 13 – Financial Analyses

Schedule 14 – Workforce Requirements

Schedule 15 – Staffing Activities

Schedule 16 – Consultant Activities

The listed Schedules are sponsored by the testimony of ERCOT Controller Michael W. Petterson.

**C. Workpapers**

Pursuant to the requirements of the ERCOT Fee Filing Package, ERCOT files the following Workpapers.

WP.1.1 Recommended Total Spending Authorization ERCOT System Administration Fee Summary Chart (2006 - 2014)

WP.1.2 Revenue Requirement and ERCOT System Administration Fee Summary Table (2006 - 2014)

WP.1.3 Fee Sensitivity

WP.1.4 Estimated Fee Impact on Average Household

- WP.2.1 Income Summary (2006 - 2014)
- WP.2.2 Membership Revenue Summary
- WP.4.1 ERCOT Division, Departmental Expenses by Expense Type (2006 - 2009)
- WP.4.2 Operating and Maintenance Expenses by Division (2006 - 2009)
- WP.4.3 Operating and Maintenance Expenses by Division Chart
- WP.4.4 Operating and Maintenance Component of Revenue Requirement by Expense Type Chart
- WP.4.5 Outside Services Expense Summary by Division
- WP.4.6. Outside Services Expense Summary by Division and Department (2009 Budget vs. 2008 Budget)
- WP.4.7. Hardware/Software Support and Maintenance Summary
- WP.4.8 Utilities, Maintenance and Facility Summary
- WP.4.9 Employee Expense by Account
- WP.4.10 Other Expense by Account
- WP.4.11 Corporate Administration - Operating and Maintenance Component of Revenue Requirement by Expense Type
- WP.4.12 Corporate Administration - Operating and Maintenance Component of Revenue Requirement by Expense Type Chart
- WP.4.13 Information Technology - Operating and Maintenance Component of Revenue Requirement by Expense Type
- WP.4.14 Information Technology - Operating and Maintenance Component of Revenue Requirement by Expense Type Chart
- WP.4.15 Market Operations - Operating and Maintenance Component of Revenue Requirement by Expense Type
- WP.4.16 Market Operations - Operating and Maintenance Component of Revenue Requirement by Expense Type Chart
- WP.4.17 System Operations - Operating and Maintenance Component of Revenue Requirement by Expense Type
- WP.4.18 System Operations - Operating and Maintenance Component of Revenue Requirement by Expense Type Chart

- WP.4.19 System Planning - Operating and Maintenance Component of Revenue Requirement by Expense Type
- WP.4.18 System Planning - Operating and Maintenance Component of Revenue Requirement by Expense Type Chart
- WP.5.1 Corporate Administration - Departmental Expenses by Expense Type
- WP.5.2 Corporate Administration - Outside Services Expense Detail
- WP.5.3 Information Technology - Departmental Expenses by Expense Type
- WP.5.4 Information Technology - Outside Services Expense Detail
- WP.5.5 Market Operations - Departmental Expenses by Expense Type
- WP.5.6 Market Operations - Outside Services Expense Detail
- WP.5.7 System Operations - Departmental Expenses by Expense Type
- WP.5.8 System Operations - Outside Services Expense Detail
- WP.5.9 System Planning - Departmental Expenses by Expense Type
- WP.5.10 System Planning - Outside Services Expense Detail
- WP.8.1 2009 Funded Project Initiatives by CART and Project
- WP.8.2 2009 Unfunded Project Initiatives by CART
- WP.8.3 2009 Unfunded Project Initiatives by CART and Project
- WP.12.1 Debt Profile (2004 - 2020)
- WP.15.1 Staffing Summary by Division and Department
- WP.15.1 Staffing Summary by Activity

## **V. Notice**

Pursuant to Commission rule,<sup>9</sup> ERCOT will provide notice of this application by electronic mail to all entities subject to the ERCOT System Administration Fee, as identified through current information available to ERCOT, and to all intervenors in ERCOT's most recent System Administration Fee case (Docket No. 31824) and in the contested cases regarding the Nodal surcharge (Docket Nos. 32686 & 35428). Entities subject to the ERCOT System Administration Fee currently include only QSEs. In addition, ERCOT will post this notice and a copy of its fee application on its web site at [http://www.ercot.com/about/governance/legal\\_notices](http://www.ercot.com/about/governance/legal_notices). A copy of ERCOT's notice is attached hereto as Attachment A.

## **VI. Effective Date**

The requested effective date for the new ERCOT System Administration Fee is January 1, 2009.

## **VII. Business Address**

ERCOT's business address and telephone number: Electric Reliability Council of Texas, 7620 Metro Center Drive, Austin, Texas 78744, and (512) 225-7000.

## **VIII. Authorized Representatives**

ERCOT's authorized representative for service of all pleadings and other documents is:

Mike Grable  
Vice President and General Counsel  
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7620 Metro Center Drive  
Austin, Texas 78744  
(512) 225-7076 (telephone)  
(512) 225-7079 (facsimile)  
[mgrable@ercot.com](mailto:mgrable@ercot.com)

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<sup>9</sup> PUCT Proc. R. 22.252(d).

ERCOT's authorized legal representatives are:

Bill Magness  
Robin Casey  
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The Texas RE's authorized representative for service of all pleadings and other documents is:

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#### **IX. Prayer for Relief**

ERCOT respectfully requests that the Commission approve ERCOT's notice of its Application and its plan for providing notice, process this Application in a timely manner and approve ERCOT's proposed fees, and grant ERCOT such other relief to which it may show itself to be entitled.

Respectfully submitted,

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Vice President and General Counsel  
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By: \_\_\_\_\_  
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ATTORNEY FOR TEXAS REGIONAL ENTITY  
A DIVISION OF ELECTRIC RELIABILITY  
COUNCIL OF TEXAS, INC.



### **Certificate of Service**

I hereby certify that a copy of ERCOT's Application for Approval of ERCOT System Administration Fee was filed with the Commission and was served on all necessary parties on June 17, 2008 by hand delivery or first class U.S. mail.

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Mike Grable  
ERCOT

**ATTACHMENT A**

**DOCKET NO. 35785**

<b>APPLICATION OF THE ELECTRIC</b>	<b>§</b>	<b>PUBLIC UTILITY COMMISSION</b>
<b>RELIABILITY COUNCIL OF TEXAS</b>	<b>§</b>	
<b>FOR APPROVAL OF THE ERCOT</b>	<b>§</b>	<b>OF TEXAS</b>
<b>SYSTEM ADMINISTRATION FEE</b>	<b>§</b>	
	<b>§</b>	

**NOTICE**

On June \_\_, 2008, the Electric Reliability Council of Texas (“ERCOT”) filed with the Public Utility Commission of Texas (Commission) its Application for Approval of the ERCOT System Administration Fee pursuant to P.U.C. Subst. R. 25.363(b). The existing and proposed System Administration is as follows:

<u>Amount of Existing Fee</u>	<u>Amount of Proposed Increase</u>	<u>Amount of Proposed Fee</u>
\$0.4171/MWh	\$0.1527/MWh	\$0. 5698/Mwh

ERCOT also proposes to change the fee it charges for “Security Screening Studies.” These studies are conducted by ERCOT at the request of entities proposing generation projects that would connect to the ERCOT system. The current fee schedule for Security Screening Studies includes the following charges:

- \$1,000 for proposed projects of 10MW to 74MW
- \$2,000 for proposed projects of 75MW to 149 MW
- \$3,000 for proposed projects of 150MW to 249MW
- \$4,000 for proposed projects of 250MW to 499MW
- \$5,000 for proposed projects of 500MW and above

The revised fee schedule proposed by ERCOT would charge the following for Security Screening Studies:

- \$10,000 for proposed projects of 1 MW to 149 MW
- \$15,000 for proposed projects 150 MW and above
- \$5000 charge for each additional voltage level

ERCOT also proposes to eliminate the Non-ERCOT Load Serving Entity Fee.

The proposed change in the ERCOT System Administration Fee will affect all Qualified Scheduling Entities (“QSEs”). The proposed change in the ERCOT Security Screening Study fee will affect parties seeking approval of generation projects that would connect to the ERCOT system. The elimination of the Non-ERCOT LSE Fee will affect Load Serving Entities that operate in Texas outside the ERCOT region.

ERCOT needs the additional revenues that will be generated from the increased System Administration Fee to implement the 2009 ERCOT Budget, which was approved by the ERCOT Board on May 20, 2008. Due to increases in its responsibilities and the expenses associated with meeting them, the current System Administration Fee will not recover ERCOT’s reasonable costs of performing the functions required of ERCOT under PURA § 39.151, the mandates included in SB 7 and other state legislation, Public Utility Commission of Texas Orders and Rules, the ERCOT Protocols, and federal reliability standards. ERCOT requests approval of a System Administration Fee of \$0.5698 per Megawatt hour (“MWh”), effective January 1, 2009.

**The deadline for intervention in the proceeding is \_\_\_\_\_.**

Persons who wish to intervene in or comment in this proceeding should notify the Public Utility Commission of Texas within 30 days of the date of this notice. A request to intervene or for further information should be mailed to the Public Utility Commission of Texas, P.O. Box 13326, Austin, Texas 78711-3326. A request to intervene shall include a statement of position containing a concise statement of the requestor’s position on the application, a concise statement of each question of fact, law, or policy that the requestor considers at issue and a concise statement of the requestor’s position on each issue identified.

ERCOT has posted this notice and a copy of its fee and rate application on its web site at [http://www.ercot.com/about/governance/legal\\_notices](http://www.ercot.com/about/governance/legal_notices). Interested parties may also access ERCOT’s 2008 Fee Filing Package through the Public Utility Commission’s web site at <http://www.puc.state.tx.us> under Docket No. **35785** *Application of the Electric Reliability Council of Texas for Approval of the ERCOT System Administration Fee*.

**DIRECT TESTIMONY OF**

**BOB KAHN**

**PRESIDENT AND CHIEF EXECUTIVE OFFICER  
ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF  
ERCOT'S APPLICATION FOR APPROVAL OF  
THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF BOB KAHN**

2                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

3  
4   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

5   A.     My name is Bob Kahn. My business address is 7620 Metro Center Drive, Austin,  
6         Texas 78744.

7  
8   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

9   A.     I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
10        President and Chief Executive Officer ("CEO"). I joined ERCOT in July 2007.

11  
12   **Q.     PLEASE    DESCRIBE    YOUR    RESPONSIBILITIES    AS    CHIEF**  
13       **EXECUTIVE OFFICER.**

14   A.     I am responsible for both the overall operations and strategic direction of ERCOT.  
15         I am the ERCOT officer ultimately responsible for carrying out the policies of the  
16         ERCOT Board of Directors, as well as policy directives from the Commission and  
17         the Texas Legislature. My key responsibilities include ensuring that ERCOT has  
18         the physical infrastructure, human resources, and funding necessary for ERCOT  
19         to meet the objectives established by legislative and regulatory oversight, and by  
20         other governing documents, such as the ERCOT Protocols. In my role as CEO, I  
21         also maintain active communications with the various stakeholders and  
22         policymakers who have interests in the development of the ERCOT market.

23  
24   **Q.     PLEASE    OUTLINE    YOUR    EDUCATIONAL    AND    PROFESSIONAL**  
25       **QUALIFICATIONS.**

26   A.     Before returning to ERCOT as CEO, I served on the ERCOT Board of Directors  
27         from 2002 through 2006, including several terms as Chair of the Board's Human  
28         Resources and Governance Committee. Immediately prior to accepting the CEO  
29         position, I served as the Deputy General Manager for Austin Energy. In my  
30         sixteen (16) years at Austin Energy, I also served as General Counsel and Vice-

1 President for Legal Services for eight years. In that position, and in my prior role  
2 as a senior attorney, I was responsible for providing counsel on all electric utility  
3 legal, regulatory and legislative matters for Austin Energy. I was involved in the  
4 negotiation and drafting of SB 7 on behalf of the public power industry, and have  
5 actively participated in the evolution of competitive markets in the ERCOT  
6 region.

7 Before joining Austin Energy, I was in private practice in Austin, where I  
8 provided advice to municipally owned electric utilities and served as lead counsel  
9 in proceedings before this Commission, the Texas Commission on Environmental  
10 Quality, and the Texas Railroad Commission. Previous to entering private  
11 practice, I was a staff attorney in the Public Utility Commission ("Commission")  
12 General Counsel's Office, where I represented the public interest in electric and  
13 water utility rate and certification cases. In these various roles, I have been an  
14 active participant in the Texas electric industry for over twenty (20) years.

15 Before beginning my career in the electric industry, I served in the United States  
16 Air Force as a Judge Advocate, directing administrative hearings and  
17 investigations, and represented the Air Force before the Merit Systems Protection  
18 Board. I earned my J.D. in 1978 from the University of Dayton School of Law  
19 and a bachelor of arts in psychology from Ohio University in 1975.

20  
21 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
22 **COMMISSION OF TEXAS?**

23 A. Yes, I submitted pre-filed testimony in Docket No. 35428 (ERCOT's request for  
24 approval of the revised Nodal market implementation surcharge).

25  
26 **Q. DOES YOUR TESTIMONY INCLUDE EXHIBITS?**

27 A. Yes. My testimony includes the following exhibits:

28 (1) Exhibit BK-1: A certified copy of the ERCOT Board of Directors  
29 Resolution, approved at the Board's May 20, 2008 meeting, approving  
30 ERCOT's 2009 budget and authorizing ERCOT to make a filing with the  
31 Commission for approval of its modified System Administration Fee.

(2) Exhibit BK-2: The proposed 2009 ERCOT Fee Schedule approved by the Board of Directors and proposed for approval by the Commission.

(3) Exhibit BK-3: The “deep dive” staffing analyses for the Corporate Security, General Counsel, and Internal Audit departments within ERCOT’s Corporate Administration Division.

(4) Exhibit BK-4: Materials prepared by ERCOT and presented in Project No. 34889 regarding estimated allocation of ERCOT employee time spent on activities relating to wholesale buyers versus wholesale sellers.

I am familiar with the contents of each of these exhibits, although the exhibits were originally prepared by other ERCOT personnel.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. My testimony addresses four issues. First, I provide an overview of ERCOT’s 2009 budget and its request for an increase in the System Administration Fee. I explain the factors that have increased ERCOT’s responsibilities, the costs and employee headcount associated with its new duties, and the reasons ERCOT must expend significant resources on the relocation of key facilities. Second, I explain the steps ERCOT took to prepare its 2009 budget, including the “deep dive” analysis ERCOT undertook to develop its revised headcount. Third, I provide information supporting the budget for the Corporate Administration division of ERCOT and, in particular, the Security, General Counsel, and Internal Audit departments included within the Corporate Administration division. Fourth, I present information regarding the allocation of ERCOT’s System Administration Fee, including the results of an analysis requested by the Commission in conjunction with Project No. 34889, *Rulemaking Related to the Allocation of the Administrative Fee of the Electric Reliability Council of Texas*.

**II. OVERVIEW OF ERCOT’S SYSTEM ADMINISTRATION FEE REQUEST**

**Q. PLEASE SUMMARIZE THE COMMISSION ACTION REQUESTED BY ERCOT.**

1 A. ERCOT requests that the Commission approve proposed changes to its Fee  
2 Schedule, most significantly an increase in the System Administration Fee. The  
3 System Administration Fee covers ERCOT's base operations, debt service, and  
4 revenue funded project activities. Due to increases in its responsibilities and the  
5 expenses associated with meeting them, the current Administration Fee will not  
6 recover ERCOT's reasonable costs of performing the functions required of  
7 ERCOT under PURA § 39.151, the mandates included in SB 7 and other state  
8 legislation, Commission Orders and Rules, the ERCOT Protocols, and federal  
9 FERC/NERC reliability standards under the oversight of the Federal Energy  
10 Regulatory Commission ("FERC") and the North American Electric Reliability  
11 Council ("NERC"). ERCOT requests approval of a System Administration Fee of  
12 \$0.5698 per Megawatt hour ("MWh"), effective January 1, 2009.

13

14 **Q. IS ERCOT REQUESTING A CHANGE IN ANY OF ITS FEES BESIDES**  
15 **THE SYSTEM ADMINISTRATION FEE?**

16 A. Yes. The proposed 2009 Fee Schedule is attached to my testimony as Exhibit  
17 BK-2. The proposed Fee Schedule includes two changes from the existing  
18 schedule: the fees for "ERCOT Security Screening Studies" and the "NERC  
19 Electric Reliability Organization Fee" ("ERO Fee"). The ERCOT Security  
20 Screening Studies, also called "generation interconnection studies," provide a  
21 preliminary assessment of the impact on the ERCOT transmission system of a  
22 proposed generation plant. The studies are prepared by ERCOT System Planning  
23 personnel for entities considering investments in generation facilities in the  
24 ERCOT region. The rationale for the change in the Security Screening Study fee  
25 is discussed in the testimony of ERCOT Vice-President of System Planning Bill  
26 Bojorquez.

27

28 **Q. WHAT IS THE ERO FEE AND WHY DOES ERCOT COLLECT IT?**

29 A. The ERO Fee is collected by ERCOT, but is not used to fund ERCOT operations.  
30 Rather, the ERO Fee is a federally mandated pass-through charge established to  
31 recover an amount approved by FERC, and assessed by NERC for the ERCOT



1 region's share of the annual operating costs of the ERO and the full costs of the  
2 Texas Regional Entity ("Texas RE"). Collection of the ERO Fee began in 2007.  
3 The amount of the ERO Fee included in ERCOT's revenue projections is an  
4 estimate, and will be finalized after NERC notifies ERCOT of the actual amount  
5 that must be recovered.  
6

7 **Q. DOES THE SYSTEM ADMINISTRATION FEE SUPPORT OTHER**  
8 **FUNCTIONS THAT, LIKE THE ERO, ARE NOT PART OF ERCOT'S**  
9 **BASE OPERATIONS?**

10 A. Yes. The System Administration Fee covers the funding of the services  
11 performed by Texas RE pursuant to the ERCOT Protocols (NERC and FERC  
12 refer to these services as "non-statutory" services) and funds the activities of the  
13 Independent Market Monitor ("IMM").  
14

15 **Q. WHAT IS THE ERCOT REVENUE REQUIREMENT THAT THE**  
16 **MODIFIED SYSTEM ADMINISTRATION FEE IS SET TO RECOVER?**

17 A. ERCOT's revenue requirement is based on its 2009 budget, which was approved  
18 by the ERCOT Board of Directors at its May 20, 2008 meeting. The Board  
19 resolution approving the budget is attached to my testimony as Exhibit BK-1.  
20 The Board-approved budget includes capital requirements, operating and  
21 maintenance expenses (excluding depreciation and amortization) and debt service  
22 requirements totaling \$223.3 million for 2009. The overall budget includes  
23 ERCOT's base operations budget of \$164.6 million, a project budget of \$47.6  
24 million, \$1.7 million for IMM activities, \$8.6 million for ERO operating  
25 expenses, and \$0.8 million for Protocol (non-statutory) services performed by the  
26 Texas RE.  
27

28 **Q. HOW DOES THE SPENDING AUTHORIZED BY THE BOARD IN THE**  
29 **2009 ERCOT BUDGET COMPARE TO THE FUNDING ERCOT WILL**  
30 **RECEIVE IF THE COMMISSION APPROVES ITS SYSTEM**  
31 **ADMINISTRATION FEE REQUEST?**

A. The funding derived from the \$0.5698/MWh System Administration Fee, when combined with other estimated sources of 2009 income, is intended to meet ERCOT's overall revenue requirement (plus the pass-through funding for ERO, Texas RE, and IMM expenses). While changes in electricity demand could increase or decrease the amounts collected from the System Administration Fee (because it is assessed on a per MWh basis), the proposed Fee is set at a level anticipated to meet, but not exceed, ERCOT's need for cost recovery, as depicted in the Table 1 below, which compares ERCOT's proposed funding and spending authorization:

**Table 1**

<b><u>Funding Authorization</u></b>	<b><u>2009 Proposed</u></b> (\$ millions)
System Administration Fee	182.0
Interest Income	0.4
Other Revenue	<u>12.3</u>
Subtotal – Revenue Requirement	194.7
Capital Spending – Debt Funded	<u>28.6</u>
Total – ERCOT Funding Authorization	<u>223.3</u>
<b><u>Spending Authorization</u></b>	
Operating Expenses	123.1
Debt Service – Principal & Interest	<u>41.5</u>
Subtotal – Base Operations	164.6
Capital Spending – Revenue Funded	19.0
Capital Spending – Debt Funded	<u>28.6</u>
Subtotal – Capital Spending	47.6
NERC Electric Reliability Organization	8.6
Market Monitoring	1.7
Protocol Services	<u>0.8</u>
Total – ERCOT Spending Authorization	223.3

As the Commission is aware, ERCOT's spending on the Texas Nodal Market Implementation Program ("Nodal Program") is funded from a separate fee, the "Nodal Surcharge" approved by the Commission.

1 **Q. TO DETERMINE THE “REASONABLE COSTS OF PERFORMING ITS**  
2 **FUNCTIONS,” DID ERCOT USE A HISTORICAL OR A FUTURE TEST**  
3 **YEAR?**

4 A. ERCOT utilized a future test year; in particular, the organization’s 2009 budget  
5 year. As discussed in detail in my testimony and the testimony of ERCOT’s other  
6 witnesses, for purposes of P.U.C. SUBST. R. § 25.363(c), “the scope of [ERCOT’s]  
7 activities and functions has been expanded by the Commission or Market  
8 Participants, resulting in higher future costs.” These changes make the use of a  
9 historical test year unrepresentative of ERCOT’s reasonable costs in the future,  
10 and meet the Commission’s standard for use of a future test year.

11  
12 **Q. WHAT ERCOT ACTIVITIES AND FUNCTIONS HAVE EXPANDED**  
13 **SINCE THE COMMISSION LAST APPROVED THE SYSTEM**  
14 **ADMINISTRATION FEE?**

15 A. The Commission approved the current System Administration Fee of \$0.4171 per  
16 MWh on May 15, 2006. A little over a month earlier, on April 5, 2006, the  
17 Commission had approved the Nodal Protocols, the key governing documents for  
18 implementation of the Nodal market. Just over two months after approving the  
19 System Administration Fee, on July 24, 2006, the Commission approved the  
20 ERCOT Compliance Process, the guidelines for ERCOT monitoring of material  
21 non-compliance with ERCOT Protocols or Operating Guides. In its Order  
22 approving the Compliance Process, the Commission noted the ongoing  
23 development of additional compliance standards by the IMM and FERC and  
24 NERC.<sup>1</sup>

25 I mention these events because they highlight just how much has changed at  
26 ERCOT in the two years since the Commission last reviewed the System  
27 Administration Fee. With the approval of the Nodal Protocols, work on Nodal  
28 market implementation began in earnest. The transition from the Zonal to the  
29 Nodal market is a monumental undertaking, but it is the day-to-day operation of

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<sup>1</sup> Docket No. 32350, *Petition of the Electric Reliability Council of Texas for Approval of the ERCOT Compliance Process*, Final Order, at 5 (July 24, 2006).

1 the Nodal market that will have a lasting impact on all aspects of ERCOT's  
2 business. Similarly, the emphasis on reliability standards and their enforcement  
3 reflected in the ERCOT Compliance Process foreshadowed the increasing  
4 workload associated with the development of, and compliance with, new  
5 standards applicable to ERCOT markets and operations. ERCOT has focused  
6 significant attention and resources on Nodal implementation and the Energy  
7 Policy Act ("EPAct") compliance framework in the last two years. It is clear,  
8 however, that these developments will have major impacts on ERCOT's ongoing  
9 activities and operations.

10 **Q. WHAT CHANGES RELATED TO NODAL MARKET OPERATIONS**  
11 **WILL AFFECT ERCOT'S ONGOING ACTIVITIES?**

12 A. Some of the new activities necessary when the Zonal market is cut over to the  
13 Nodal market will "cancel out" similar activities that were part of Zonal market  
14 operations. In other cases, Nodal operations will be more costly to operate. The  
15 anticipated efficiencies the Nodal market is expected to create are driven  
16 primarily by sophisticated software and hardware systems that ERCOT will  
17 manage and operate. Many of the changes caused by the new systems will  
18 increase ERCOT operating costs over the costs associated with Zonal operations.  
19 Some of the new or changed activities that will increase operating costs include:

- 20 (1) Increased number of price points and market reports;
- 21 (2) Increased number of charge types for Settlements and Billing;
- 22 (3) Day Ahead Market operations require new and more frequent reports;
- 23 (4) Congestion Revenue Rights ("CRR") market is more complex than the  
24 Transmission Congestion Rights ("TCR") system;
- 25 (5) The Daily Reliability Unit Commitment ("DRUC") and Hourly Reliability  
26 Unit Commitment ("HRUC") systems are more complex than the Zonal  
27 market Replacement Reserve Service ("RPRS");
- 28 (6) The outage scheduling process is more complex;
- 29 (7) Increased need for IT personnel to manage new applications, maintain  
30 computer models, and oversee change management processes.

1 There are numerous other changes directly or indirectly attributable to Nodal  
2 market operations that impact the workload of every division in ERCOT. The  
3 impact of these changes on ERCOT operations are detailed in the testimony of  
4 ERCOT's division leadership. Overall, ERCOT understands that realization of  
5 the hundreds of millions of dollars in savings for Texas electric customers that  
6 were forecast by the Commission's original Nodal analysis will depend on  
7 ERCOT's ability to efficiently manage the complexities of the new market  
8 structure.

9  
10 **Q. HOW DO THE NODAL MARKET CHANGES AFFECT ERCOT'S**  
11 **COSTS?**

12 A. By far the largest operating cost increases associated with the new Nodal market  
13 workload are caused by the need for new people to do the work. There are  
14 increases in hardware and software licensing costs expected, and a temporary  
15 increase in outside services costs for 2009 related to the need to have outside  
16 expertise on call for "bug fixes" during the first few months of Nodal operations.  
17 These costs are relatively minor when compared to the expenditures necessary to  
18 hire and retain qualified employees who can competently manage Nodal systems  
19 in the years ahead.

20  
21 **Q. WHAT IMPACT DO THE CHANGES IN COMPLIANCE ACTIVITIES**  
22 **HAVE ON THE ORGANIZATION'S COSTS?**

23 A. The impact of increased efforts to monitor and ensure compliance with present  
24 and future NERC and TRE standards is also felt primarily in the operating  
25 expenses caused by increased headcount. The specific headcount increases are  
26 identified in the testimony of ERCOT's division leadership, and in the testimony  
27 of Texas RE Chief Executive Officer Larry Grimm.

28  
29 **Q. ARE THE CHANGES AFFECTING ERCOT'S DUTIES REFLECTED IN**  
30 **THE OVERALL STAFFING LEVEL INCLUDED IN THE 2009 BUDGET**  
31 **APPROVED BY THE ERCOT BOARD OF DIRECTORS?**

1 A. Yes. Based on its Board-approved budget, ERCOT's 2009 Board-authorized  
2 staffing level would be 753 full-time equivalents ("FTEs") for 2009. The  
3 requested funding included in the 2009 proposed budget anticipates utilizing 670  
4 FTEs for base-operations functions and 83 FTEs for project-related tasks. By  
5 comparison, the Board-authorized staffing level in ERCOT's 2008 budget  
6 included 703 FTEs, with 145 of those FTEs assigned to the Nodal Program.

7  
8 **Q. HOW WILL EMPLOYEES WORKING ON NODAL IMPLEMENTATION**  
9 **BE ACCOUNTED FOR IN THE 2009 BUDGET?**

10 A. The Nodal implementation team includes a mix of ERCOT employees, outside  
11 contractors, and vendor personnel. The expenses of Nodal implementation are  
12 funded by the Nodal Surcharge approved by the Commission. As Nodal Go-Live  
13 approaches, various Nodal Program personnel will "roll off" the project as their  
14 tasks are completed. A substantial number of ERCOT employees (including  
15 some employees originally hired during the Nodal Program and funded from the  
16 Nodal Surcharge) will remain on board to operate Nodal systems after Go-Live.  
17 In planning the 2009 budget, ERCOT management included all FTEs who will be  
18 involved in ongoing Nodal operations in the ERCOT "base operations" headcount  
19 and operating budget. After Go-Live, "Nodal" operations will be synonymous  
20 with "ERCOT" operations, and the projects funded by the Nodal Surcharge will  
21 be complete. The shift of those FTEs who were previously accounted for in the  
22 Nodal Program budget but after 2009 will be included in ERCOT base operations  
23 increases the "Labor and Benefits" line items in most ERCOT division budgets.

24 **Q. WILL THE CHANGES IN ERCOT'S DUTIES HAVE AN IMPACT**  
25 **BEYOND ERCOT'S BASE OPERATIONS BUDGET?**

26 A. Yes. The most significant impact is on ERCOT's facilities needs. The  
27 implementation of the Nodal market has dramatically increased the quantity of  
28 computer hardware resident in ERCOT's Taylor and Austin Data Centers.  
29 ERCOT has benefited from the technology changes that permit more computing  
30 power to be included in smaller hardware footprints, and is also fortunate to have  
31 creative IT professionals who have found ways to work within difficult space

1 constraints. Nevertheless, the Data Centers are now at capacity and must be  
2 expanded to meet ERCOT's current and future needs.

3 In addition to space for hardware, ERCOT must address the space needs of its  
4 personnel. Specifically, ERCOT must determine the future home of the Austin-  
5 based operations because the Met Center lease expires in 2011. In anticipation of  
6 the lease expiration, ERCOT engaged in extensive space and facilities planning  
7 activities in 2007-08. Those efforts are detailed in the direct testimony of ERCOT  
8 Facilities & Site Development Director Steven Grendel. The ERCOT Board of  
9 Directors approved a facilities plan earlier this year.

10  
11 **Q. WERE THERE OTHER FACTORS THAT AFFECTED ERCOT'S**  
12 **FACILITIES PLANNING?**

13 A. Yes. The expiration of the Met Center lease and the increased need for equipment  
14 and personnel space were not the only factors affecting ERCOT's facilities plans.  
15 ERCOT must also ensure that its facilities satisfy ERCOT's needs for security and  
16 reliability. For example, ERCOT has determined that its Data Centers and the  
17 Control Center should be designed with an availability target of 99.98% to  
18 support System Operations and Market Operations systems, along with related  
19 communications networks. Buildings housing the Data and Control Centers  
20 should have structurally sound concrete construction and be able to withstand 125  
21 mph winds. In addition, ERCOT Data and Control Centers should also have a  
22 physically securable 60 foot perimeter.

23  
24 **Q. HOW DID ERCOT ADDRESS THESE CONCERNS IN FORMULATING**  
25 **ITS FACILITIES PLAN?**

26 A. Our examination of ERCOT's security needs led management to conclude that the  
27 Data and Control Centers should be in buildings dedicated to those functions.  
28 The "mixed" use arrangement at the Met Center, while functional, raises security  
29 concerns that ERCOT does not wish to replicate in facilities replacing the Met  
30 Center. Under the plan approved by the Board of Directors, ERCOT will  
31 negotiate a new lease by 2010 for office space to accommodate ERCOT executive

1 and administrative staff, the IMM, the Texas RE, and Market Participant meeting  
2 space. The plan contemplates construction of a new Control Center / Data Center  
3 to house equipment and personnel now located at the Met Center facility. The  
4 plan also involves expansion of the Taylor Data Center into existing raised floor  
5 space at the Taylor facility that was originally designed for use as part of the Data  
6 Center. Mr. Grendel's direct testimony includes more details regarding the  
7 facilities plan.  
8

9 **Q. WHAT IS THE BUDGET IMPACT OF THE BOARD-APPROVED**  
10 **FACILITIES PLAN?**

11 A. The facilities plan adopted by the Board of Directors finances the relocation of  
12 Met Center office space and the construction of new Data Center / Control Center  
13 space using a mix of revenue and debt funding. The plan is the lowest-cost  
14 available that achieves all stated space and security objectives, and leaves ERCOT  
15 in the best long-term financial position. The revenue-funded portion of the  
16 facilities plan, together with related expenses, requires an approximately \$9.1  
17 million expenditure from the 2009 ERCOT operating budget.  
18

19 **Q. HAVE THERE BEEN ANY MATERIAL DECREASES IN ERCOT'S**  
20 **DUTIES SINCE THE SYSTEM ADMINISTRATION FEE WAS**  
21 **REVIEWED IN 2006?**

22 A. No. While many things have changed, ERCOT retains its core functions of  
23 ensuring grid reliability, supporting the wholesale and retail markets, and  
24 maintaining critical information technology infrastructure. We are constantly  
25 seeking increased efficiencies, such as through automation or process  
26 realignment, in order to perform our tasks in the most cost-effective manner  
27 possible. Prudent management of our resources has enabled ERCOT to maintain  
28 expanding operations since 2006 without seeking an increase in the System  
29 Administration Fee. In order to perform our core functions in the new market  
30 framework in the coming years, however, ERCOT requires additional resources.  
31



1 **Q. HAS ERCOT EXAMINED THE IMPACT OF THE CHANGES YOU**  
2 **HAVE DESCRIBED ON THE LEVEL OF THE SYSTEM**  
3 **ADMINISTRATION FEE?**

4 A. Yes. ERCOT analyzed the incremental impact that each of the major changes  
5 affecting its budget has on the System Administration Fee, and presented our  
6 findings to the ERCOT Finance & Audit (“F&A”) Committee and the Board of  
7 Directors.

8 The proposed System Administration Fee of \$0.5698 per MWh represents an  
9 incremental increase of \$0.1527 over the current fee. ERCOT’s analysis indicates  
10 that of the incremental increase includes the following components:

11 **Table 2**

Accommodate Nodal Market Operations		
Operations & Maintenance		\$0.0893
Facilities Plan		<u>\$0.0286</u>
		\$0.1179
FERC/NERC/TRE Compliance Costs		\$0.0064
Other Factors		<u>\$0.0284</u>
Total Incremental Increase		\$0.1527

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13  
14  
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16  
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22  
23 As depicted in Table 2, the increased headcount and facilities required by Nodal  
24 market operations represent the largest driver of the increase in ERCOT’s costs  
25 and, by extension, in the amount of its System Administration Fee request.  
26

27 **Q. WHAT IS INCLUDED IN THE “OTHER” CATEGORY THAT**  
28 **CONTRIBUTES \$0.0284 TO THE INCREMENTAL INCREASE IN THE**  
29 **PROPOSED FEE?**

30 A. This category accounts for other incremental increases over ERCOT’s 2008  
31 budget. The two major components of this category are increased labor costs  
32 associated with additional FTEs in areas not directly related to Nodal market or  
33 compliance issues. The rationale for each additional FTE is detailed in the  
34 testimony of ERCOT’s witnesses (including my testimony concerning the  
35 Corporate Administration budget). The largest component of the “Other” category

1 is the principal payments on ERCOT debt. Of the total budgeted spending of  
2 \$9.07 million included, \$7.46 million is for repayment of principal on ERCOT  
3 debt.  
4

5 **Q. WHAT IS THE RATIONALE FOR THIS LEVEL OF EXPENDITURE ON**  
6 **DEBT SERVICE?**

7 A. The direct testimony of ERCOT Vice-President and Chief Financial Officer Steve  
8 Byone includes specific discussion of ERCOT's Financial Standard and annual  
9 financing plans. In general, as ERCOT has grown and undertaken many costly  
10 capital projects, ERCOT management, the ERCOT Board, and the Commission  
11 have kept a close watch on the company's debt/revenue ratio and other indicators  
12 of financial health. Prudent financial management ultimately keeps ERCOT's  
13 costs as low as possible, and the payment of debt service is a critical component  
14 of that strategy. Moreover, ERCOT must meet its repayment schedules on debt  
15 instruments to maintain its creditworthiness and credibility in financial markets.  
16

17 **Q. CAN ERCOT DEFER OR DELAY CERTAIN EXPENDITURES TO**  
18 **REDUCE THE IMPACT ON THE SYSTEM ADMINISTRATION FEE?**

19 A. The key activities and functions that are driving the increases in ERCOT's costs  
20 are not undertaken at ERCOT's discretion. ERCOT's new initiatives and added  
21 activities are directly related to decisions made by Market Participants, the  
22 Commission, the Legislature, or Congress. ERCOT knows that none of these  
23 decisions affecting ERCOT's mission were made lightly, and all are directed  
24 toward increasing the reliability, efficiency, and security of the Texas electric  
25 grid. Moreover, ERCOT is gratified by the confidence its various stakeholders  
26 place in the organization and its ability to bring major policy objectives from the  
27 drawing board to successful implementation. Nevertheless, achieving these  
28 mandates requires people, equipment, and facilities that require additional  
29 resources.

30 ERCOT is always willing to trim its spending by cutting capital projects or  
31 pulling back on the Protocol requirements driving operating expenses, but only if

1 directed to do so by the appropriate authorities. The increased size and  
2 complexity of the organization pose management, security, and financial  
3 challenges that ERCOT takes on only out of necessity. As a non-profit  
4 corporation, ERCOT's growth does not mean it is more profitable; in our  
5 business, success does not equate to size. As ERCOT developed its 2009 budget,  
6 however, most of the criticism of our efforts came from stakeholders who  
7 believed ERCOT should be *spending more* on particular capital projects. We can  
8 cut our budget to lower the incremental increase in the fee amount, but we cannot  
9 compromise the quality of the work that is demanded of ERCOT under the  
10 Protocols and governing statutory and regulatory standards.

11  
12 **III. DEVELOPMENT OF ERCOT'S 2009 STAFFING LEVELS AND BUDGET**

13  
14 **Q. WHAT STEPS DID ERCOT MANAGEMENT TAKE TO ENSURE THAT**  
15 **ITS 2009 BUDGET LIMITS EXPENDITURES TO THE REASONABLE**  
16 **COSTS OF PERFORMING ERCOT'S FUNCTIONS?**

17 A. When I joined ERCOT in July 2007, it was apparent that the increased resource  
18 demands that I have already described would necessitate an increase in ERCOT's  
19 headcount and budget. It has been one of my highest priorities as CEO for  
20 ERCOT's management team to be able to stand behind every dollar and FTE  
21 position requested by ERCOT in the 2009 budget. Because of the many changes  
22 affecting the organization, it was not sufficient to start from existing headcounts  
23 or budget amounts to develop the new budget. The starting point needed to be an  
24 analysis of the tasks needed to complete new and continuing activities necessary  
25 for ERCOT to complete its work. Since ERCOT costs are driven primarily by  
26 employee headcount, the analysis focused on the number of employees needed to  
27 perform the tasks assigned. In my view, the most thorough and trustworthy way  
28 to conduct this analysis was from the "bottom up" throughout the organization.

29  
30 **Q. HOW DID ERCOT CONDUCT THE TASK ANALYSIS FROM THE**  
31 **"BOTTOM UP"?**

1 A. Starting in the late summer of 2007, ERCOT began a process known internally as  
2 the “deep dive” task analysis. Each departmental unit within ERCOT was asked  
3 to start from the ground up and analyze the tasks the department is assigned to  
4 perform. Department managers or directors were responsible for working with  
5 their direct reports to develop a first draft report based on a common template  
6 developed for the analysis. The department-level reports included:  
7 (1) A detailed description of the core functions of each department.  
8 (2) Identification of the factors driving headcount up or down.  
9 (3) Analysis of changes in workload, by task, expected for 2009.  
10 (4) Comparison of the workload forecast by the task analysis to the  
11 department’s requested 2009 headcount (with explanation of variances).  
12 To compile the reports, departmental leaders were responsible for developing data  
13 to support all of their conclusions.  
14

15 **Q. HOW DID ERCOT ENSURE CONSISTENCY IN THE DATA**  
16 **DEVELOPED BY MANAGERS AND DIRECTORS?**

17 A. All data and draft reports were reviewed by the Executive Review Team (“ERT”),  
18 which was composed of ERCOT’s officers. The ERT worked with managers to  
19 ensure consistency in how workload was being estimated, and to make certain  
20 that different departments were not taking responsibility for duplicate tasks.  
21 Where problems arose, the ERT pointed them out and addressed them with  
22 department or division-level leadership. The ERT review required a significant  
23 commitment of time from ERCOT’s officers, but it was worthwhile for the  
24 leaders of the company’s divisions to review and comment on the drafts prepared  
25 for each of the other divisions. As the department-level data and analysis was  
26 prepared and reviewed, questions or inconsistencies between departments could  
27 be addressed before completion of the deep dive report. Ultimately, the deep dive  
28 presentations were packaged in a Power Point format for presentation to me by  
29 each of ERCOT’s Vice-Presidents.  
30

31 **Q. DID YOU REVIEW THE DEEP DIVE PRESENTATIONS?**

1 A. Yes, each of ERCOT's Vice-Presidents made a presentation to me concerning the  
2 findings of their deep dive analyses. My review of the information, and  
3 discussions with the managers who prepared it, led to additional analysis where  
4 necessary to refine workload estimates and staffing requests.  
5

6 **Q. DID ERCOT CONTINUE TO REFINE THE DEEP DIVE ANALYSES AS**  
7 **PART OF THE 2009 BUDGET PROCESS?**

8 A. Yes. The deep dive analyses served as the basis for departmental staffing  
9 requests. As managers reviewed the analyses and the data underlying them, they  
10 continued to refine staffing requests throughout the budget process. In many  
11 areas, the impact of Nodal market implementation presented uncertainties that led  
12 managers to make significant changes to their original task analyses as the process  
13 progressed. The analysis for the departments most affected by Nodal market  
14 changes – particularly those in the Information Technology division – were  
15 revised several times to capture as many savings as possible while ensuring  
16 sufficient staffing would be available for the expected workload.  
17

18 **Q. DID THE DEEP DIVE ANALYSIS PROVIDE ERCOT A REASONABLE**  
19 **BASIS FOR ESTIMATING ITS REQUIRED HEADCOUNT?**

20 A. Yes, I certainly believe it did. The deep dive process did not begin from a static  
21 status quo and assume new tasks would automatically equal added staff. Rather,  
22 by starting from the bottom and working up, the process forced everyone in  
23 ERCOT to thoughtfully analyze their activities and how they will (or should)  
24 change in 2009. The rigor of the process also ensured that managers throughout  
25 ERCOT were comparing “apples to apples” when assessing their workload and  
26 the FTEs needed to get the job done.  
27

28 **Q. ARE YOU FAMILIAR WITH THE ERCOT WORKFORCE ANALYSIS**  
29 **PREPARED BY R.W. BECK ON BEHALF OF THE COMMISSION?**

30 A. I have not reviewed the entire R.W. Beck report, but am familiar with its overall  
31 conclusions. In addition, I am aware that R.W. Beck used ERCOT's deep dive

1 analysis materials to validate and refine many of their staffing recommendations.  
2 ERCOT's specific responses to R.W. Beck's recommendations are discussed in  
3 more detail in the testimony of ERCOT Vice-President of Human Resources and  
4 Organizational Development Nancy Capezzuti.  
5

6 **Q. HOW DOES THE HEADCOUNT RESULTING FROM THE DEEP DIVE**  
7 **ANALYSIS COMPARE TO THE STAFFING REPORT PREPARED FOR**  
8 **THE COMMISSION BY R.W. BECK?**

9 A. ERCOT's internal analysis resulted in an overall headcount for 2009 very close to  
10 that recommended by R.W. Beck in its Final Report delivered to the Commission  
11 on April 15, 2008. ERCOT's 2009 Board-authorized staffing level in the 2009  
12 budget would be 753 FTEs. The Beck Report suggested ERCOT will require 725  
13 FTEs in 2009. While the Beck Report's number is somewhat lower, we  
14 nevertheless believe the report generally validates ERCOT's assessment of what  
15 will be required to manage the new duties it will have in 2009, particularly related  
16 to Nodal market implementation.  
17

18 **Q. HOW WERE THE OTHER ASPECTS OF THE 2009 BUDGET**  
19 **DEVELOPED?**

20 A. In developing the 2009 Budget, ERCOT staff followed a process which included  
21 extensive opportunities for interested parties to provide input. ERCOT conducted  
22 a public meeting, discussed financial concepts and assumptions with Commission  
23 staff, and presented budget material at several meetings of the F&A Committee  
24 (including a special meeting on April 3, 2008 devoted exclusively to the 2009  
25 budget) which were open to the public. The 2009 Budget was also discussed  
26 during the April 15, 2008 meeting of the Board of Directors. Budget materials  
27 together with detailed support schedules were posted to the ERCOT website in  
28 advance of both the April and May board meetings.

29 The F&A Committee met on April 15, 2008 and, after extensive review,  
30 developed the Committee's recommendation regarding the 2009 Budget. Between  
31 the Committee's April and May meetings, there were several modifications made

1 to the 2009 budget proposed by ERCOT management. The modifications were  
2 offsetting and did not result in a change to the System Administration Fee  
3 proposed by ERCOT. The F&A Committee met on May 20, 2008 to review  
4 management's recommended budget adjustments since the April 15, 2008  
5 meetings and to make a final recommendation to the Board regarding the 2009  
6 Budget. The Board of Directors approved the F&A Committee's  
7 recommendation at its May 20, 2008 meeting.  
8

9 **Q. DO YOU BELIEVE THE ERCOT 2009 BUDGET AND STAFFING**  
10 **LEVELS ARE REASONABLE?**

11 A. Yes. ERCOT's Budget has been the subject of a rigorous process involving  
12 ERCOT personnel at all levels of the organization and ERCOT's many  
13 stakeholders. ERCOT is acutely aware that its operations are funded by Texas  
14 electricity consumers, and we strive to provide value for their money. By  
15 maintaining system reliability, operating the most successful wholesale and retail  
16 markets in the nation, and moving forward to deliver a Nodal market that we  
17 expect will serve Texans well for years to come, ERCOT is doing extremely  
18 valuable work for those it serves. ERCOT estimates that if its System  
19 Administration Fee request is approved by the Commission, the average Texas  
20 household will pay far less than \$1 per month for everything provided by  
21 ERCOT. While that is certainly higher than today's fees, it still totals only \$9.19  
22 per year. Moreover, ERCOT expects overall fees to decrease after the Nodal  
23 implementation costs are recovered and the Nodal surcharge is no longer  
24 collected. In light of all the services ERCOT provides and the critical  
25 infrastructure it maintains, I believe ERCOT's budget and proposed fees are  
26 entirely reasonable.  
27

28 **IV. CORPORATE ADMINISTRATION DIVISION STAFFING AND BUDGET**  
29

30 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE**  
31 **CORPORATE ADMINISTRATION DIVISION OF ERCOT.**

1 A. The Corporate Administration division includes personnel who provide services  
2 for the entire ERCOT organization. All ERCOT divisions rely on Corporate  
3 Administration personnel to provide human resources, finance and accounting,  
4 legal, and facilities support. In addition, the division includes ERCOT's security  
5 personnel, the internal audit group, and the corporate divisional program  
6 organization.

7  
8 **Q. PLEASE DESCRIBE THE CORPORATE ADMINISTRATION**  
9 **DIVISION'S RECENT MAJOR ACTIVITIES.**

10 A. In recent years, ERCOT Corporate Administration has undertaken important  
11 initiatives to improve the management and accountability of ERCOT's operations,  
12 communications, and financial security. Corporate personnel created – and now  
13 enforce – extensive business controls and oversight mechanisms that apply to the  
14 entire organization. The Finance group carefully monitors ERCOT's credit status  
15 and ensures the company's financial health. The ERCOT legal team has guided  
16 the organization through the changes associated with the National Energy Policy  
17 Act and the policies adopted by the Texas Legislature and the Commission that  
18 affect ERCOT. The Human Resources organization constantly looks for ways to  
19 improve employee satisfaction and retention and make ERCOT an attractive  
20 alternative for electric industry professionals who are in high demand. Under the  
21 direction of the Board of Directors' F&A Committee, ERCOT auditors have  
22 conducted dozens of internal audits of ERCOT's corporate functions, particularly  
23 those associated with the massive Nodal transition effort. Overall, the division's  
24 work has dramatically improved ERCOT's performance and accountability as an  
25 organization, and, in turn, its credibility with Market Participants and policy  
26 makers.

27  
28 **Q. WHAT CHANGES IN THE CORPORATE ADMINISTRATION**  
29 **DIVISION DO YOU EXPECT IN 2009?**

30 A. The division is affected – whether directly or indirectly – by any major change  
31 that impacts the ERCOT organization. As I discussed in response to previous



1 questions, the major changes affecting the ERCOT organization include the  
2 transition to the Nodal market, increased federal standards and involvement in  
3 reliability issues, and the associated growth and complexity of the ERCOT  
4 organization. Corporate staff feels the ripple effects of all of these developments.  
5 For example, the development of Nodal market has increased the need for  
6 auditing and oversight work, and the new hardware and software systems  
7 involved in the Nodal market all come with contracting and procurement  
8 challenges associated with them. The issuance of new federal reliability standards  
9 has increased the need for Corporate personnel to manage new regulatory and  
10 compliance matters. The increase in ERCOT's general duties and personnel  
11 needs have required creation and execution of a plan to expand and relocate  
12 critical facilities; that plan and its execution are being led by the Corporate  
13 Facilities & Site Development department.  
14

15 **Q. WHAT IMPACT DO THESE DEVELOPMENTS HAVE ON THE**  
16 **CORPORATE ADMINISTRATION DIVISION'S STAFFING NEEDS?**

17 A. Although demand for corporate services has increased, the division has attempted  
18 to keep its staffing as close as possible to 2008 Board-authorized levels. In some  
19 circumstances, areas where staffing has been short in the past were increased in  
20 order to meet current and expected demand. In total, the division's headcount  
21 goes from 131 FTEs budgeted in 2008 to 137 FTEs authorized by the Board in the  
22 2009 budget approved by the ERCOT Board of Directors, an increase of six (6)  
23 FTEs. The FTE counts by department within the Corporate Administration  
24 division are as follows:

25 **Corporate Administration**  
26 **Summary of Staffing**  
27  
28

Department	2008 Budget	2009 Requested
101 – Executive Administration	4	4
111 – Treasury & Credit Admin.	9	10
112 – Contract Admin. & Procurement	12	10

113 – Internal Control Management Program	3	3
114 – Accounting & Budget	19	20
120 – General Counsel	20	21
130 – Human Resources & Org. Developmt.	11	13
180 – Internal Audit	7	7
325 – Facilities & Site Development	14	15 <sup>2</sup>
350 – Program Management Office	1	1
351 – Corp. Admin. Divisional Proj. Org.	6	6
352 – PMO Planning, Quality & Reporting	6	7
353 – Program Administration	4	4
370 – Information Systems Security	11	11
371 – Physical Security	4	4
372 – Security Administration	0	1
<b>Total</b>	<b>131</b>	<b>137</b>

**Q. DOES YOUR DIRECT TESTIMONY DISCUSS THE BUDGETS FOR ALL OF THE DEPARTMENTS IN THE CORPORATE ADMINISTRATION DIVISION?**

A. No. Three other witnesses address several of the departments within the Corporate Administration division. Vice-President and Chief Financial Officer Steve Byone presents the deep dive headcount and budget analysis for Treasury & Credit Administration, Contract Administration & Procurement, Internal Controls Management Program (“ICMP”), Accounting & Budget, and the divisional program management organizations. Vice-President of Human Resources & Organizational Development Nancy Capezzuti provides testimony on the Human Resources & Organizational Development department. Testimony regarding the

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<sup>2</sup> As noted in the direct testimony of Facilities & Site Development Director Steven Grendel, the 2008 budget included authorization for 14 FTEs in 2008. During the 2008 budget year, the department received approval to add another FTE due to workload during that year. Therefore, the Facilities department is currently operating with 15 FTE, and will continue at that level under the 2009 budget approved by the ERCOT Board of Directors.

1 Facilities & Site Development department is provided by its Director, Steve  
2 Grendel.

3

4 **Q. WHAT DEPARTMENTS DOES YOUR TESTIMONY ADDRESS?**

5 A. My testimony focuses on the headcounts and budgets for the Corporate Security  
6 departments, Executive Administration, General Counsel, and Internal Audit.

7

8 **Q. HOW DID THE CORPORATE ADMINISTRATION DIVISION**  
9 **DEVELOP ITS PROPOSED HEADCOUNT FOR 2009?**

10 A. As I discussed earlier in my testimony, the entire ERCOT organization  
11 collectively performed an internal “deep dive” review of all functions and  
12 positions as part of 2009 budget development. The leaders of the departments in  
13 Corporate Administration undertook deep dive analyses similar to those in other  
14 divisions. Division management worked with departmental staff as well as  
15 ERCOT’s Finance organization to develop specific line items in the Corporate  
16 Administration division’s budget request.

17

18 **Q. IS THERE DOCUMENTATION TO SUPPORT EACH OF THE**  
19 **DEPARTMENTAL DEEP DIVE ANALYSES DISCUSSED IN YOUR**  
20 **DIRECT TESTIMONY?**

21 A. Yes. The following deep dive analyses are attached to my testimony as Exhibit  
22 BK-1:

- 23 (1) Corporate Security;  
24 (2) General Counsel; and  
25 (3) Internal Audit.

26 I did not directly participate in the preparation of these documents, but am  
27 familiar with their content and have discussed them with ERCOT Chief Security  
28 Officer (“CSO”) Jim Brenton, Vice-President and General Counsel Mike Grable,  
29 and Director of Internal Audit Bill Wullenjohn. Mr. Brenton and Mr. Grable  
30 report directly to me as ERCOT’s CEO. Mr. Wullenjohn reports to the ERCOT

1 Board of Directors F&A Committee for substantive matters (*i.e.*, the subject  
2 matter and content of internal audits), and to me for administrative issues.

3  
4 **A. CORPORATE SECURITY**

5  
6 **Q. DIRECTING YOUR ATTENTION TO THE CORPORATE SECURITY**  
7 **ANALYSIS, PLEASE DESCRIBE THE 2009 CORPORATE SECURITY**  
8 **STAFFING NEEDS.**

9 A. ERCOT's security staff is organized in three departmental groups, with the  
10 following 2009 FTE headcounts: Physical Security (4 FTEs), Information  
11 Systems Security (11 FTEs), and Security Administration (1 FTE – CSO Jim  
12 Brenton). The headcount for the Security organization is the same as that Board-  
13 authorized for 2008: 16 FTEs. (The CSO position was assigned to Executive  
14 Administration in the 2008 budget and organizationally separated in the 2009  
15 budget.)

16  
17 **Q. PLEASE DESCRIBE THE TASKS INCLUDED IN THE**  
18 **RESPONSIBILITIES OF THE PHYSICAL SECURITY DEPARTMENT.**

19 A. As any visitor to ERCOT is aware, we place a high priority on maintaining the  
20 security of our critical operations and information systems. All visitors must have  
21 clearance and be on record with security staff, and the organization maintains  
22 tight access restrictions on its Data Center and Control Room locations.  
23 Considering the sensitivity of ERCOT's reliability and market operations  
24 functions, this is simply good business practice – but it is also required by NERC  
25 standards and ERCOT Protocols. The physical security staff implements the  
26 policies and standards that all who work with ERCOT must abide by to ensure  
27 adequate security. The department is responsible for designing, installing,  
28 maintaining, and regularly inspecting electronic and biometric access readers,  
29 closed circuit television systems, and alarms. In addition, they maintain the  
30 security records necessary to document compliance with NERC standard CIP-  
31 006/R6.

1 **Q. DOES ERCOT EMPLOY THE SECURITY GUARDS WHO WORK ON**  
2 **ERCOT PREMISES?**

3 A. ERCOT contracts with a private security guard force provider. This arrangement  
4 is much more cost-effective than hiring and training an entire force of security  
5 personnel. ERCOT's current contract is with Allied Barton, which provides  
6 ERCOT with over 25 security guards at its Austin and Taylor locations. Physical  
7 Security department staff manages the contract and provides daily supervision of  
8 security officers. Close supervision of performance under this contract is  
9 obviously critically important to maintaining security of ERCOT's critical assets.  
10

11 **Q. WHAT ARE THE RESPONSIBILITIES OF THE INFORMATION**  
12 **SYSTEMS SECURITY DEPARTMENT?**

13 A. The Information Systems Security department was formed in 2005, and became  
14 fully operational in 2007. The department implements standards and strategies  
15 directed at maintaining cyber-security for all ERCOT information systems. These  
16 efforts include protecting ERCOT from external intruders such as hackers and  
17 spam purveyors, and from unauthorized internal users who may inadvertently or  
18 intentionally corrupt critical systems. Information security is subject to standards  
19 both from the perspective of reliability (governed by NERC CIP requirements)  
20 and market operations (SAS 70 includes Control Objectives and Activities for  
21 market settlements). In any business, it is always challenging to stay the  
22 necessary steps ahead of digital pirates; for ERCOT, it is an essential part of our  
23 mission.  
24

25 **Q. HOW DOES THE ADDITION OF NEW INFORMATION SYSTEMS**  
26 **RELATED TO THE NODAL MARKET AFFECT THE DEPARTMENT?**

27 A. Additional information systems create the need for more real-time monitoring and  
28 protection. Simply put, the more the market relies on cyber-resources, the more  
29 important it is to maintain cyber-security. The Information Systems Security staff  
30 estimated that their workload will increase by enough to justify 14 FTEs in 2009.  
31 The department proposed 11 FTEs, however, for two reasons. First, the

1 department staff believes it can take advantage of increased automation and  
2 process realignments in ways that will minimize the need for additional staff.  
3 Second, the department attempted to keep its staffing needs as lean as possible as  
4 it evaluates the actual needs caused by the Nodal systems.  
5

6 **B. GENERAL COUNSEL**  
7

8 **Q. PLEASE DESCRIBE THE RESPONSIBILITIES OF THE GENERAL**  
9 **COUNSEL ORGANIZATION.**

10 A. The ERCOT General Counsel's office provides three types of services, including  
11 direct participation in and management of: (1) corporate governance and business  
12 transactions; (2) dispute resolution, litigation, and business operations support  
13 requested by ERCOT's divisions; (3) regulatory, legislative, and external  
14 communications and support. The organization includes attorneys, paralegals,  
15 and specialists in corporate communications and government relations.

16 The General Counsel's office has always handled the bulk of the legal work that  
17 ERCOT generates. While outside counsel is retained for certain litigation or  
18 highly specialized matters, our in-house legal team provides most of the support  
19 necessary for ERCOT's regulatory, transactional, and corporate needs. As a  
20 stakeholder-driven organization, ERCOT has always required significant legal  
21 support to manage the development and review of its governing Protocols,  
22 participate in stakeholder committee meetings, and address concerns raised by  
23 parties dissatisfied with ERCOT Board decisions (either informally or in dispute  
24 resolution). As an ISO subject to state and federal regulatory oversight, ERCOT  
25 needs counsel to maintain active and effective communications with  
26 policymakers, advocate for the ERCOT market's interests in state and federal  
27 regulatory forums, and analyze proposed state regulations and statutes, Protocol  
28 Revision Requests, and NERC/FERC requirements. As a non-profit corporation,  
29 ERCOT requires transactional attorneys who can negotiate and manage contracts  
30 effectively, provide necessary legal documentation to prepare for and memorialize

1 action by its Board of Directors, and support human resources, accounting, and  
2 legal compliance initiatives.

3  
4 **Q. ARE THERE CHANGES EXPECTED IN THE WORKLOAD OF THE**  
5 **GENERAL COUNSEL'S OFFICE IN 2009?**

6 A. The legal workload has increases due to tasks associated with the requirements of  
7 the Energy Policy Act of 2005. The legal staff is responsible for maintaining  
8 compliance with NERC and Texas RE standards that did not exist before the  
9 passage of the federal legislation. In addition, it is vital for ERCOT to monitor  
10 and participate in FERC rulemakings and NERC and Texas RE processes that  
11 develop reliability standards applicable to the ERCOT market. The addition of  
12 these tasks for ERCOT lawyers did not come with a reduction of tasks in other  
13 areas. Rather, the General Counsel organization has absorbed the new workload  
14 but stretched its capabilities to perform all its other tasks. In 2009, we expect  
15 additional legal work generated by dispute resolutions or PRRs related to Nodal  
16 market operations. The dimension of this increase cannot be accurately  
17 quantified, but ERCOT expects that until the nuances of Nodal market operations  
18 are completely understood, there may be differences among Market Participants  
19 or proposed refinements to the Nodal Protocols that will require the participation  
20 of ERCOT legal staff.

21  
22 **Q. WHAT IS THE HEADCOUNT FOR THE GENERAL COUNSEL'S**  
23 **OFFICE IN THE 2009 BUDGET?**

24 A. The General Counsel office headcount approved in the 2009 budget is 21 FTEs.  
25 This compares to 20 FTEs Board-authorized in the 2008 budget. However,  
26 during 2008, one employee transitioned from the Finance to the General Counsel  
27 organization, increasing the General Counsel headcount to 21 FTEs. The 2009  
28 headcount therefore remains at the current level. The deep dive task analysis for  
29 the office showed that 23.4 FTEs would be required to deliver on expected tasks.  
30 The General Counsel's office is committed, however, to work within the existing

1 headcount and seek to implement efficiencies wherever possible to complete its  
2 work with existing resources.

3  
4 **C. INTERNAL AUDIT**

5  
6 **Q. WHAT ARE THE RESPONSIBILITIES OF THE INTERNAL AUDIT**  
7 **DEPARTMENT?**

8 A. The Internal Audit department performs audits that are required by ERCOT  
9 Protocols or requested by the Board of Directors or ERCOT management.  
10 Internal auditors are responsible for providing independent, objective information  
11 to assist the Board of Directors and its F&A Committee in evaluating and  
12 improving the effectiveness of ERCOT's risk management, business control, and  
13 governance processes. The Internal Auditor reports directly to the Board's F&A  
14 Committee, to ensure the office's independence from management influence. As  
15 CEO, I am responsible for the Internal Audit department's administrative needs,  
16 but do not direct its activities.

17  
18 **Q. WHAT TYPES OF AUDITS DOES THE INTERNAL AUDIT**  
19 **DEPARTMENT CONDUCT?**

20 A. The audit reports issued by the department in 2007 covered dozens of topics. The  
21 subjects of the audits included issues of general concern to ERCOT, as well as  
22 issues specific to the Nodal implementation program. The audits included  
23 reviews of ERCOT processes and procedures related to:

- 24 (1) Procurement and Contract Administration;  
25 (2) Contractor and employee background checks, ethics agreement, and drug  
26 screens;  
27 (3) Registration and Qualification of Market Participants;  
28 (4) Business Continuity Plan;  
29 (5) Ethics Compliance; and  
30 (6) Nodal Recruiting, Time-Tracking, and Procurement.



1 In 2007, the Internal Audit team completed 35 audit reports, compared to 22 in  
2 2006 and only seven (7) in 2004 and 2005.

3  
4 **Q. DOES THE DEPARTMENT HAVE RESPONSIBILITIES OTHER THAN**  
5 **CONDUCTING AUDITS?**

6 A. Yes. The Internal Audit team is responsible for verifying the implementation of  
7 all material audit points and findings reported in its audits. In addition, they  
8 perform the same verification function for audit points reported by external audit  
9 reports. The F&A Committee has also given the Internal Audit department  
10 responsibility for planning, developing, and implementing a flexible and ongoing  
11 fraud prevention and detection program. The Internal Audit staff manages the  
12 “EthicsPoint Hotline” within ERCOT and investigates the possible ethics issues  
13 reported on the hotline. Internal audit staff also regularly provides fraud  
14 prevention and ethics awareness training to new employees and contractors, as  
15 well as refresher training to veteran employees.

16  
17 **Q. WHAT IS THE HEADCOUNT FOR THE INTERNAL AUDIT**  
18 **DEPARTMENT IN THE 2009 BUDGET APPROVED BY THE BOARD OF**  
19 **DIRECTORS?**

20 A. The Board-approved headcount for the Internal Audit department is seven (7)  
21 FTEs, the same as included in the 2008 budget. The Internal Audit department  
22 leadership expect the workload could increase based on the level of audit requests  
23 anticipated, but believes the work can be managed with existing personnel  
24 through prioritization of efforts. The department does not expect its workload to  
25 be changed in a meaningful way by the transition to the Nodal market.

26  
27 **D. CORPORATE ADMINISTRATION CAPITAL PROJECTS**

28  
29 **Q. ARE THERE CORPORATE ADMINISTRATION PROJECTS INCLUDED**  
30 **IN THE PROJECT PRIORITY LIST (“PPL”) FOR 2009?**

1 A. Yes. Some of the projects are directed to meeting needs of ERCOT's Finance and  
2 Human Resources organizations; those are addressed in Steve Byone's and Nancy  
3 Capezzuti's direct testimony. The other major projects are in two categories.  
4 First, the facilities issues I addressed earlier (replacement of the Met Center  
5 offices, delivery of improved Data Center and Control Center facilities) are  
6 included in the PPL. The amount Board-authorized will provide funding for the  
7 revenue funded portion of the facilities plan. This project accounts for the lion's  
8 share of the \$23.9 million budget estimated for Corporate Administration projects  
9 on the PPL.  
10

11 **Q. WHAT IS THE OTHER MAJOR CATEGORY OF CORPORATE**  
12 **ADMINISTRATION CAPITAL PROJECTS?**

13 A. There are several projects on the 2009 PPL related to security improvements.  
14 These include projects to increase the quality of automated information security  
15 systems, update the Intrusion Detection System ("IDS") and address issues  
16 regarding increased physical perimeter security for ERCOT facilities. In addition,  
17 ERCOT is investing in an identity and access management system that will  
18 automate the generation of reports necessary for SAS 70 and NERC standards  
19 compliance. As I discussed previously, we expect security and compliance to be  
20 major issues in 2009, and these projects permit ERCOT to take necessary actions  
21 to stay on top of them.  
22

23 **V. ALLOCATION OF THE SYSTEM ADMINISTRATION FEE TO**  
24 **"WHOLESALE BUYERS AND SELLERS"**  
25

26 **Q. TO WHOM DOES ERCOT CHARGE THE SYSTEM ADMINISTRATION**  
27 **FEE?**

28 A. The System Administration Fee "is charged to all Qualified Scheduling Entities  
29 (QSEs) based on Load represented."<sup>3</sup> The allocation of ERCOT's fees is  
30 addressed in PURA § 39.151(e), which provides that the Commission "may

---

<sup>3</sup> ERCOT Fee Schedule; ERCOT Protocol 9.7.1.

1 authorize [ERCOT] to charge a reasonable and competitively neutral rate to  
2 wholesale buyers and sellers to cover [its] costs.”  
3

4 **Q. HAS THE COMMISSION DETERMINED THAT ERCOT FEES COULD**  
5 **BE ALLOCATED IN A DIFFERENT MANNER CONSISTENT WITH**  
6 **PURA § 39.151(e)?**

7 A. Yes. In Docket No. 29505, the Commission concluded that PURA § 39.151(e)  
8 “does not require, but permits, the Commission to authorize a fee that is charged  
9 to generators. The Commission further concludes that the Commission has the  
10 authority to approve a fee under PURA § 39.151(e) that is charged to either  
11 wholesale buyers or wholesale sellers, or both.”<sup>4</sup> In Docket No. 32686, the  
12 Commission held that ERCOT surcharge to fund the Nodal Program “should be  
13 allocated to generation, as PURA 39.151(e) allows ERCOT to charge rates to both  
14 wholesale buyers and sellers to cover costs.”<sup>5</sup> Pursuant to Commission orders  
15 and the ERCOT Protocols now in effect, ERCOT bills the System Administration  
16 Fee to QSEs representing load, and bills the Nodal surcharge to QSEs  
17 representing generation.  
18

19 **Q. WHAT IS ERCOT’S POSITION ON HOW THE SYSTEM**  
20 **ADMINISTRATION FEE SHOULD BE ALLOCATED AMONG**  
21 **“WHOLESALE BUYERS AND SELLERS”?**

22 A. The commercial relationship between ERCOT and “wholesale buyers and sellers”  
23 is through QSEs. As long as the allocation methodology contemplates a billing  
24 relationship between ERCOT and QSEs (as opposed to ERCOT and other  
25 categories of entities), ERCOT is capable of formulating systems changes  
26 necessary to implement the Commission’s allocation determination, and ERCOT  
27 does not have a preference regarding the allocation of costs “between wholesale

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<sup>4</sup> Docket No. 29505, *Joint Appeal of Texas Industries, Inc. and Office of Public Utility Counsel of the Decision of the ERCOT Board Rejecting Protocol Revision Request 482*, Order on Certified Issue (Sept. 3, 2004).

<sup>5</sup> Docket No. 32686, *Application of The Electric Reliability Council of Texas For Approval of A Nodal Market Implementation Surcharge And Request For Interim Relief*, Interim Order at 5 (Aug. 29, 2006).

1 buyers and sellers” for purposes of fee allocation. Any allocation methodology  
2 outside of the billing relationship between ERCOT and QSEs would have to  
3 address credit issues and other fundamental business process issues, as well as  
4 extensive information technology system implementation issues. As ERCOT has  
5 stated in previous discussions of this issue, ERCOT’s interest lies in the  
6 implementation of the allocation methodology chosen by the Commission rather  
7 than in the choice of the methodology.  
8

9 **Q. HOW HAS ERCOT ADDRESSED THE ALLOCATION OF THE SYSTEM**  
10 **ADMINISTRATION FEE IN ITS FEE APPLICATION IN THIS CASE?**

11 A. In two ways. First, the materials in the ERCOT Fee Filing Package filed  
12 contemporaneously with this testimony do not assume any change in the  
13 allocation of the System Administration Fee. This should not affect the  
14 Commission’s analysis of those materials because the resolution of the allocation  
15 issue does not impact ERCOT’s costs, headcounts, use of debt financing, or other  
16 issues documented in the Fee Filing Package materials. In rate case parlance, the  
17 evidence demonstrating ERCOT’s revenue requirement is not dependent on the  
18 resolution of rate design questions. Alternatively, to put it in the terms used in  
19 PURA § 39.151(e), the question of whether the fee is “reasonable” can be  
20 evaluated independent of the question of whether it is “competitively neutral.”  
21 Second, ERCOT presents for the Commission’s consideration the results of an  
22 analysis prepared by ERCOT that provides an estimate of the allocation of  
23 ERCOT employee time spent on activities relating to wholesale buyers versus  
24 wholesale sellers. This analysis, which was requested by the Commission in  
25 Project No. 34889, *PUC Rulemaking Relating to Allocation of the Administrative*  
26 *Fee of the Electric Reliability Council of Texas*, was presented by ERCOT to  
27 interested parties at a workshop in that Project held on May 16, 2008. The  
28 ERCOT analysis is attached to my testimony as Exhibit BK-4.  
29

30 **Q. FOR WHAT PURPOSE WAS THE ANALYSIS PRESENTED IN EXHIBIT**  
31 **BK-4 PREPARED?**

1 A. As the Commission is aware, the allocation of ERCOT's fees has been a  
2 contentious matter among stakeholders in the Texas electric market for some  
3 time. In 2007, the Commission opened Project No. 34889 to consider alternatives  
4 for addressing the issue. The Commission hosted a workshop in the Project on  
5 February 5, 2008. At the workshop, Chairman Smitherman and Commissioners  
6 Parsley and Hudson expressed a preference for addressing fee allocation policy  
7 issues as part of ERCOT's System Administrative Fee proceeding, rather than  
8 through a rulemaking framework. In anticipation of ERCOT's fee filing, the  
9 Commission requested that ERCOT prepare data that could facilitate the  
10 Commission's consideration of the appropriate, long-term allocation of ERCOT's  
11 System Administration Fee.<sup>6</sup> In particular, the Commissioners asked ERCOT to  
12 examine the activities delineated in its employee time-tracking system, and  
13 attempt to allocate employee hours between work spent on tasks related to  
14 generators, and work spent on tasks related to load. ERCOT agreed to prepare the  
15 information requested, and to present its findings to stakeholders. This process  
16 was intended to permit discussion of the data prior to the filing of ERCOT's  
17 System Administration Fee filing, in part to avoid protracted discovery  
18 concerning the issue in the System Administration Fee case.<sup>7</sup>

19  
20 **Q. DID ERCOT PREPARE AND PRESENT THE ANALYSIS TO**  
21 **STAKEHOLDERS PRIOR TO FILING THIS CASE?**

22 A. Yes. ERCOT prepared the information requested by the Commission and  
23 provided its findings to the Commission, OPC, and all parties of record in  
24 ERCOT's most recent System Administration Fee case (Docket No. 31824) and  
25 in the contested cases regarding the Nodal implementation surcharge (Docket  
26 Nos. 32686 & 35428). ERCOT worked with Commission Staff to convene a  
27 follow-up workshop in Project No. 34889 to fulfill ERCOT's commitment to  
28 discuss its findings on workload allocation with all interested parties. The

---

<sup>6</sup> Project No. 34889, February 5, 2008 Workshop, Tr. at 35-38.

<sup>7</sup> *Id.* at 38 (Commissioner Parsley: "[T]his isn't, in my opinion, something that should become a hugely contested item in the fee case in terms of RFIs and depositions for the different individual things that [ERCOT is] categorizing.")

workshop was held on May 16, 2008. I attended the workshop and, along with other ERCOT officers and staff, was available for questions from interested parties and Commission Staff.

**Q. WHAT METHODOLOGY DID ERCOT USE TO CONDUCT ITS ANALYSIS?**

A. At the February 5, 2008 workshop, the Commissioners directed that ERCOT attempt to use its time tracking system to allocate workload between “buyers” and “sellers” of electricity. ERCOT developed a spreadsheet for each department within the organization (except for Corporate Administration and the Nodal program, as explained below) that showed the department’s 2007 total reported hours broken down by the “activity codes” used in ERCOT’s time-keeping system. Along with the spreadsheet, division and department management were given instructions on how to estimate a wholesale buyer (load) / wholesale seller (generation) allocation. The activity code breakdowns were allocated on a percentage basis. The instructions to managers required that all percentage breakdowns add up to 100% of the hours reported. The hours breakdown did not include hours spent on the Nodal implementation program. The Nodal implementation functions are one-time activities that do not reflect ERCOT’s historical or ongoing workload. The hours breakdown also did not include ERCOT-wide administrative functions (*i.e.*, the Legal, Finance, or Human Resources departments housed in the Corporate Administration division). The tasks performed by such personnel are overheads for the entire organization, and are not devoted specifically to any market segment. The breakdown of hours was prepared by each department manager within ERCOT, and reviewed by division management for each division.

**Q. PLEASE SUMMARIZE THE FINDINGS OF ERCOT’S ANALYSIS.**

A. The bottom line of the analysis is that for 2007 hours reported, 55% were found to be directed toward activities related to buyers of wholesale electricity (load), and 45% were found to be directed toward activities related to sellers of wholesale

1 electricity (generation). In the materials included in Exhibit BK-4, the total  
2 breakdowns by department are summed up to a division-wide percentage for each  
3 of ERCOT's organizational units (excluding Corporate Administration, for the  
4 reasons described above).

5  
6 **Q. DO YOU BELIEVE THIS ANALYSIS PROVIDES A REASONABLE**  
7 **BASIS FOR ESTIMATING THE PERCENTAGE OF ERCOT EMPLOYEE**  
8 **ACTIVITIES RELATED TO WHOLESALE BUYERS AND SELLERS?**

9 A. Yes, the methodology employed by ERCOT provides a reasonable basis for  
10 estimating the percentage of ERCOT employee activities found to be directed  
11 toward activities related to wholesale buyers and sellers of electricity. If the  
12 Commission determines as a policy matter that the division of ERCOT activities  
13 between the buyer and seller categories provides the most reasonable basis for  
14 allocating ERCOT's fees, the analysis conducted by ERCOT provides our best  
15 estimate of the division of those activities.

16  
17 **Q. WHY DID ERCOT USE 2007 DATA IN ITS ANALYSIS?**

18 A. The hours of work recorded by ERCOT employees was the crucial input to  
19 ERCOT's analysis, and the 2007 data was the most recent available. ERCOT is  
20 not aware of any factors that would make the work completed in 2007 less  
21 representative of ERCOT's ongoing activities than data from a previous year. In  
22 fact, 2007 hours best reflect the increased workload associated with the growing  
23 ERCOT responsibilities I have described elsewhere in my testimony. It is  
24 possible that the allocation of hours between activities directed to wholesale  
25 buyers and sellers will shift once the Nodal market is in operation. Until Nodal  
26 operations are actually underway, ERCOT cannot provide reliable data regarding  
27 that question.

28  
29 **Q. ARE THERE WAYS OF EXAMINING THE ALLOCATION OF ERCOT'S**  
30 **FEE THAT DO NOT INVOLVE ANALYSIS OF EMPLOYEE TASK**  
31 **TIMES?**

1 A. As with any rate-design issue, there could be many alternative ways of examining  
2 how ERCOT's fees should be allocated. As pointed by the parties at the Project  
3 No. 34889 workshop where ERCOT presented its findings, examination of  
4 employee task times does not measure capital expenditures by ERCOT, the  
5 number of projects undertaken by market segment, or other indicia that parties  
6 might argue are relevant to fee allocation. The analysis ERCOT was asked to  
7 prepare did focus on employee task times as the key criteria, and ERCOT's  
8 analysis provides a reasonable estimate of the division of employee hours  
9 between activities directed to wholesale buyers and sellers. ERCOT does not  
10 claim its analysis in any way constrains the parties or the Commission from  
11 choosing different criteria for allocating ERCOT fees.

12  
13 **Q. IF THE COMMISSION MAKES A POLICY DETERMINATION**  
14 **CALLING FOR A FEE SPLIT BETWEEN WHOLESALE BUYERS AND**  
15 **SELLERS, WILL THERE BE IMPLEMENTATION ISSUES FOR**  
16 **ERCOT?**

17 A. Today, ERCOT's major fees are both allocated 100% to one category of QSEs –  
18 the System Administration Fee to QSEs representing load; the Nodal surcharge  
19 100% to QSEs representing Generation. As I noted above, ERCOT's systems are  
20 all built around ERCOT's counter-party relationship with QSEs. If the  
21 Commission directed ERCOT to bill entities other than at the QSE level,  
22 implementation would involve substantial re-working of information technology  
23 systems and would include a very large price tag. If the Commission's decision  
24 maintains the billing relationship with QSEs, however, ERCOT believes that it  
25 could accomplish implementation in a manner similar to that undertaken when the  
26 Commission ordered the Nodal surcharge be collected from QSEs representing  
27 generation. ERCOT requests that if the Commission makes a determination that a  
28 split fee is appropriate, the Commission provide ERCOT a reasonable time before  
29 the Final Order is issued in this case to propose a specific billing formula to  
30 achieve the Commission's policy decision. A similar process worked well in



1           Docket No. 32686 when the Commission initially adopted the new allocation  
2           framework for the Nodal surcharge.

3

4   **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

5   **A.     Yes, it does.**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**  
**BOARD OF DIRECTORS RESOLUTION**

WHEREAS, the Board of Directors (the "Board") of Electric Reliability Council of Texas ("ERCOT"), Inc. deems it desirable and in the best interest of ERCOT to approve the proposed 2009 Strategic Financial Plan & Budget ("Budget"), including capital requirements, operating and maintenance expenses (excluding depreciation and amortization) and debt service requirements, totaling \$223.3 million, to support the activities of ERCOT in 2009.

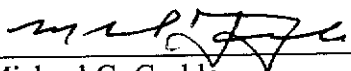
THEREFORE, IT IS HEREBY RESOLVED, that the Board hereby adopts the proposed 2009 Budget and 2009 ERCOT Fee Schedule, which includes a base operations budget of \$164.6 million, a project budget of \$47.6 million, \$1.7 million for market monitoring activities, \$8.6 million for a federally mandated pass-through charge established to recover an amount approved by FERC as the ERCOT region's share of the annual budgeted operating costs of the Electric Reliability Organization, and \$0.8 million for Protocol services performed by the Texas Regional Entity; and

BE IT FURTHER RESOLVED, that ERCOT is authorized to make a filing with the PUCT consistent with the approved Budget.

**CORPORATE SECRETARY'S CERTIFICATE**

I, Michael G. Grable, Corporate Secretary of ERCOT, do hereby certify that, at its May 20, 2008 meeting, the Board of Directors of ERCOT passed a motion approving the above Resolution by a unanimous voice vote with no abstentions.

IN WITNESS WHEREOF, I have hereunto set my hand this 9 day of June, 2008.

  
\_\_\_\_\_  
Michael G. Grable  
Corporate Secretary



### Exhibit A ERCOT Fee Schedule

ERCOT fees are approved by the Board of Directors and are subject to approval from the Public Utility Commission of Texas (PUCT). The following is a schedule of the proposed 2009 fees.

Description	Protocol Reference	Calculation/Rate/Comment
ERCOT System Administration Fee	9.7.1	\$0.5698 per MWh to fund ERCOT activities subject to PUCT oversight - Charged to all Qualified Scheduling Entities (QSEs) based on Load.
NERC Electric Reliability Organization Fee	NA	A federally mandated, pass-through charge established to recover an amount approved by FERC for the ERCOT region's share of the annual operating costs of the Electric Reliability Organization.
Private Wide Area Network fees	9.7.6	Actual cost of using third party communications networks - initial equipment installation cost not to exceed \$18,000, and monthly network management fee not to exceed \$865.
ERCOT Nodal Implementation Surcharge	9.7.7	\$0.169/MWh – Charged to all QSEs representing net metered generation.
ERCOT Security Screening Study (Not Refundable)	NA	A preliminary study of the impacts of a proposed generation plant <b><u>One request, one site, one voltage level</u></b> \$10,000 (1MW to 149MW) \$15,000 (150MW and above) <b><u>Additional voltage levels</u></b> \$5,000 each
Full Interconnection Study (Not Refundable)	NA	Modeling Fee incurred by the Transmission and/or Distribution Service Provider (TDSP) \$15 per MW
Map Sale fees	NA	\$20 - \$40 per map request (by size)
Qualified Scheduling Entity Application Fee	9.7.5	\$500 per Entity
Competitive Retailer Application Fee	9.7.5	\$500 per Entity
Mismatched Schedule Processing Fee	9.7.4	\$1 per mismatched event - Assessed to QSEs submitting schedules referencing each other where the schedules do not match
Voluminous Copy Fee	NA	\$0.15 per page in excess of 50 pages
Late Fees	9.4.6	Wall Street Journal prime interest rate plus two (2) percent – assessed for failure to make timely payment under the Protocols.



# ERCOT Organizational Deep Dive

## CORPORATE SECURITY

Jim Brenton

Director, Security & CSO

May 2008

- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
370- Information Security	11	14	11
371- Physical Security	4	4	4
<b>Total</b>	<b>15</b>	<b>18</b>	<b>15</b>

## Summary Points

1. Task analysis indicates 18 FTEs total needed to support both departments, requesting 15 FTE.
2. Both departments are requesting that 2009 staffing levels remain at current staffing levels.
3. Security will use a combination of overtime, contractor augmentation, and task prioritization to accommodate any gap between actual work load and 2009 headcount.

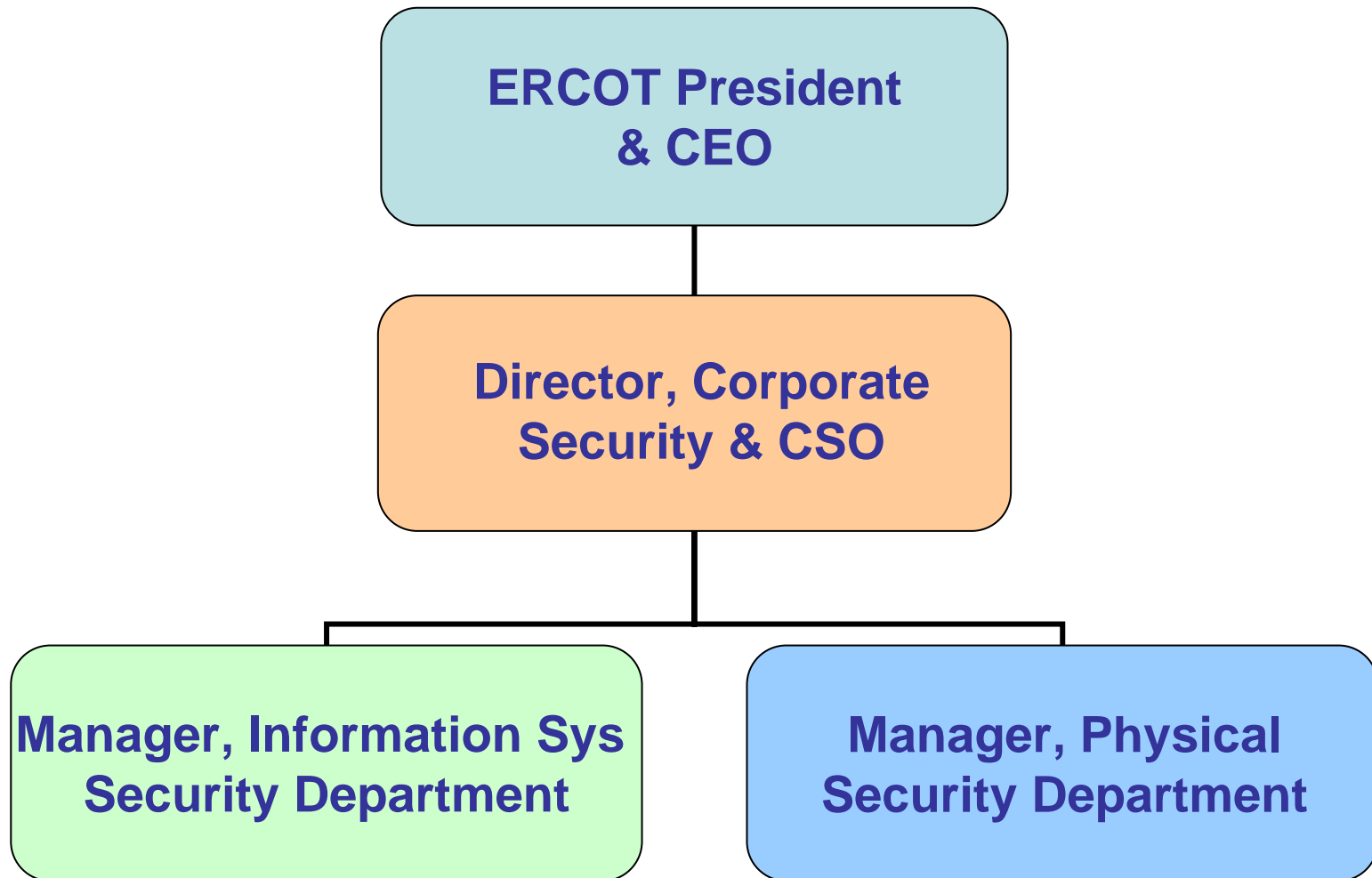
- **Increased Security Standards Compliance**
  - NERC Standards Compliance (Reliability Audits to start CY2009)
  - SAS70 Audits now continuous
- **Increased IT Security Ops tempo and new infrastructure**
  - Must redeploy and re-tune Security Ops monitoring and compliance control tools to support ERCOT's transition to new Nodal systems
- **Provide increased Critical Infrastructure Protection (CIP) guidance and clarification to ERCOT Asset Owners and Market Participants**
  - Electricity Reliability Organization (ERO) and new NERC Cyber Security Stds CIP002-009
  - CIP Advisory Group and support for NERC Reliability Standards



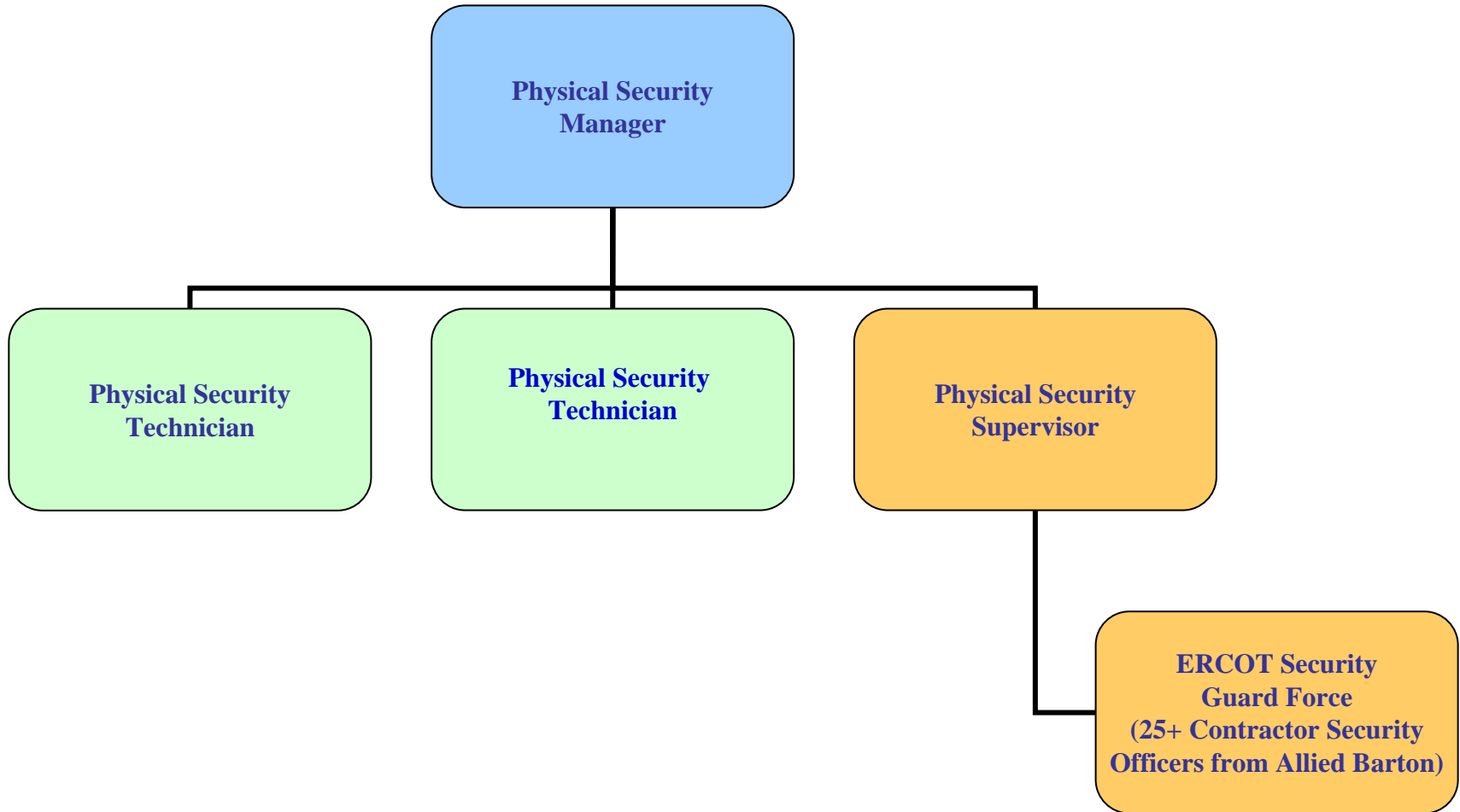
- **Task Analysis reveals there is more work for Security in CY2009 than current resources available**
  - Physical Security Department—short 1 FTE in CY2009
    - Maintenance and Inspection of Electronic Platforms
    - NERC Compliance Audit Preparations
  - Information Systems Security Department— short 3 FTE in CY2009
    - Security Ops Analysis and Monitoring of new Nodal Infrastructure
    - Analysis of Security Threats, Vulnerabilities and Incidents
    - NERC Compliance Audit Preparations
- **FTEs put in overtime and Security Contractors perform unique and specialized Security tasks as-needed to supplement teams**
- **Security Project Initiatives to reduce staffing needs**
  - Physical Security: Facility Access Control System
  - Logical Security:
    - Compliance Monitoring
    - Identity and Access Management
    - Security Event Monitoring Enhancements



# Organization Overview



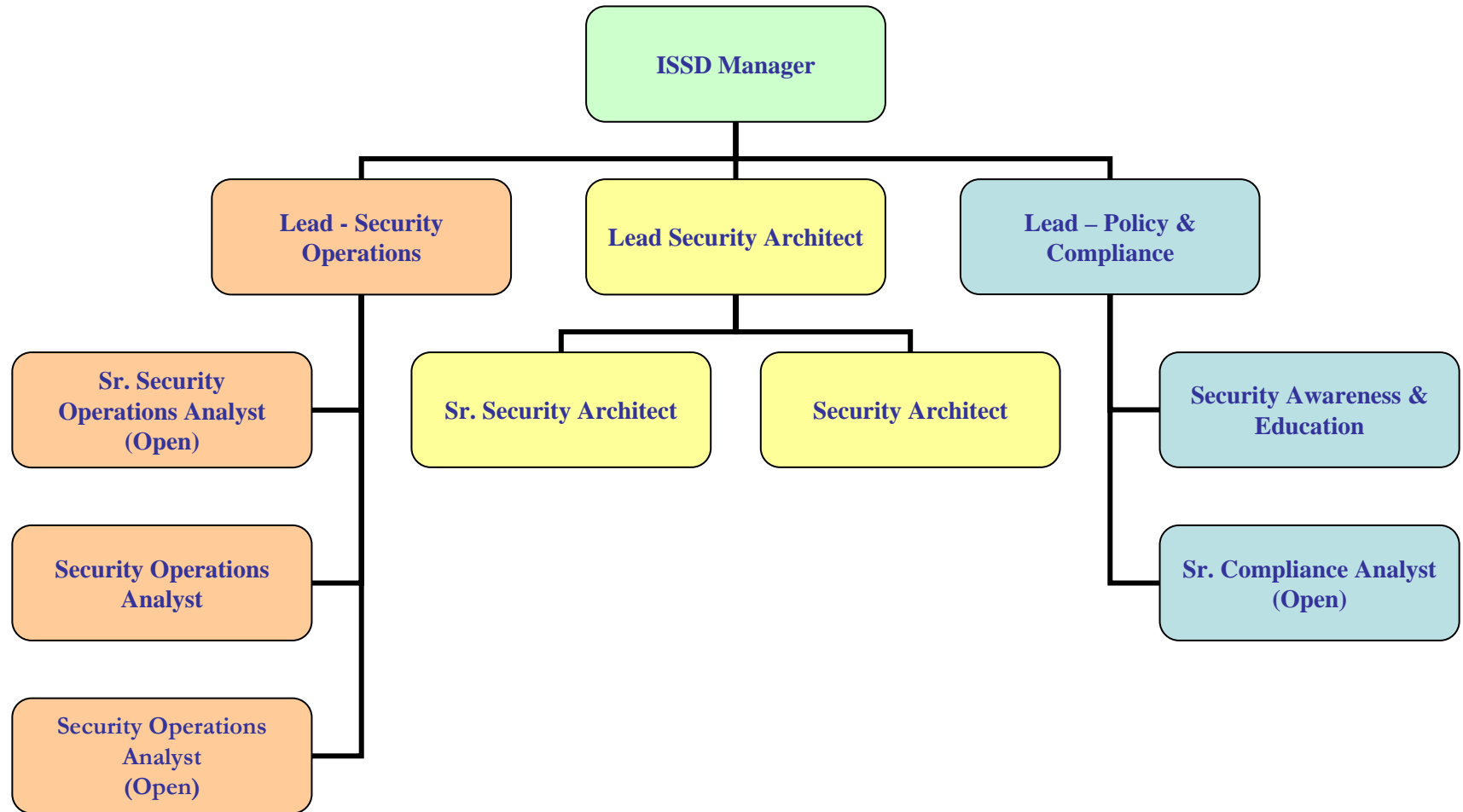
# Physical Security Department Organization Chart



# Physical Security – Core Functions

Physical Security Manager	Technical Infrastructure Team	Security Guard Force Operations
<ol style="list-style-type: none"><li>1. Perform oversight and management of Dept.</li><li>2. Develop and set strategy</li><li>3. Implement Policies, Stds &amp; Requirements</li><li>4. Develop &amp; maintain physical threat reduction programs</li><li>5. Design and coordinate installation of electronic security systems</li><li>6. Advise Executives and management of physical security practices and recommend risk mitigation technologies</li></ol>	<ol style="list-style-type: none"><li>1. Administer, program, inspect &amp; operate facility access control systems</li><li>2. Design, configure, install, integrate, program, inspect and maintain Closed Circuit TV (CCTV) monitoring and electronic alarm systems</li><li>3. Installs, maintains, repairs and inspects security electronic badge readers and biometric access readers.</li><li>4. Maintain detailed records, documentation &amp; artifacts required for compliance with NERC CIP-006/R6</li><li>5. Supports on-demand NODAL physical security requirements</li></ol>	<ol style="list-style-type: none"><li>1. Manage and ensure vendor compliance with terms Security Guard Force contract (25+ officers)</li><li>2. Lead contract negotiations and vendor selection</li><li>3. Perform daily supervision of security officers and staff</li><li>4. Develop and maintain guard post operating instructions and emergency response procedures</li><li>5. Review all incident reports and Investigate all improper attempts to enter restricted areas containing NERC Critical Assets</li><li>6. Review, approve &amp; coordinate timesheets and vendor invoices with contractor</li><li>7. Select and train contract Security officers</li></ol>

# Information Systems Security Department Organization Chart



# Information Systems Security Department (ISSD) – Core Functions

ISSD Manager	ISSD Security Operations
<ol style="list-style-type: none"><li>1. Perform oversight and management of Department</li><li>2. Develop &amp; set Departmental strategy</li><li>3. Develop &amp; Implement Cyber Security Policies, Standards &amp; Requirements</li><li>4. Develop &amp; maintain Cyber Security Threat Reduction programs</li><li>5. Determine appropriate Cyber Security Technologies for Security Risk Mitigation</li><li>6. Ensures audit compliance with NERC Critical Infrastructure Protection (CIP) Security Standards &amp; Requirements for power grid operations, and SAS70 Control Objectives and Activities for wholesale market settlements</li></ol>	<ol style="list-style-type: none"><li>1. Manage, monitor and control of ERCOT Enterprise-wide Security Operations activities</li><li>2. Design, configure and operate Enterprise Intrusion Detection and Protection Systems</li><li>3. Performs Security Threat &amp; Vulnerability Analysis and Security Event Responses activities</li><li>4. Leads Cyber Security Incident Response Team</li><li>5. Develops ERCOT Forensic capability &amp; Leads Cyber Security investigations</li><li>6. Designs, manages &amp; administers Security Technologies to counter emerging threats to ERCOT</li></ol>

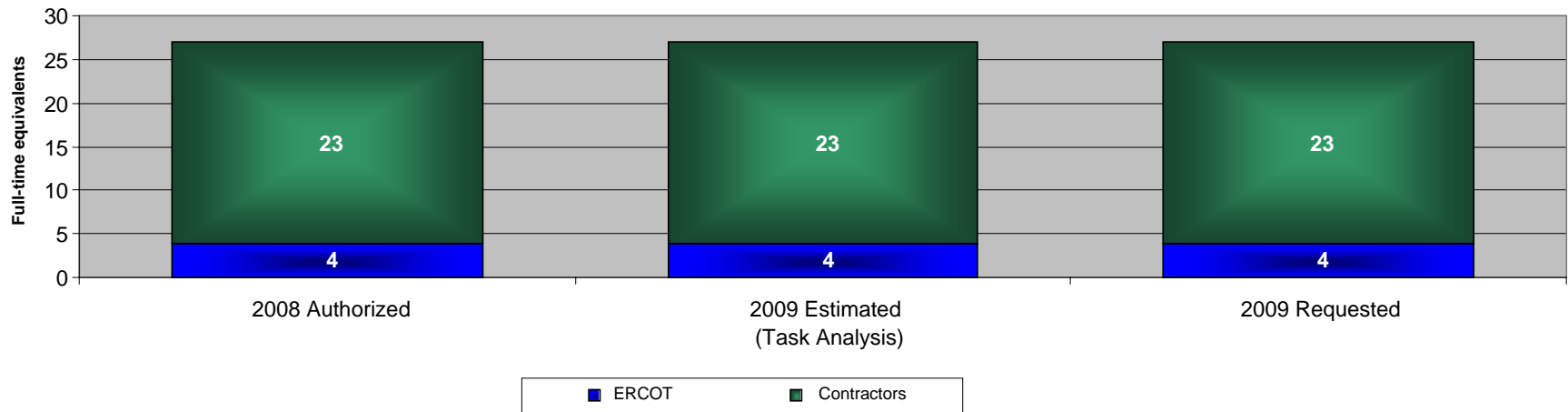
<b>ISSD Security Architecture and Consulting Team</b>	<b>ISSD Security Compliance and Process Team</b>
<ol style="list-style-type: none"><li>1. Designs and develops Enterprise Security Solutions</li><li>2. Consults on Capital and Operations &amp; Maintenance projects</li><li>3. Leads technical aspect of security initiatives</li><li>4. Provides Critical Infrastructure Protection (CIP) and Security Research</li><li>5. Leads and Facilitates ERCOT Member Security activities</li><li>6. Facilitates ERCOT CIP Advisory Group and provides technical support to Independent System Operator/Regional Transmission Organization (ISO/RTO) Security Working Group</li></ol>	<ol style="list-style-type: none"><li>1. Develops &amp; Implements Information Security Policies</li><li>2. Develops &amp; Implements Security Awareness</li><li>3. Develops &amp; Performs NERC and SAS70 Compliance Activities</li><li>4. Develops &amp; Performs Information Security Policies Compliance Activities</li><li>5. Provides Security Metrics &amp; Trend reports</li><li>6. Facilitates ERCOT Enterprise Risk Management Security Sub-committee</li><li>7. Manages Security Vulnerability and Risk Exception program</li></ol>





# Task Analysis

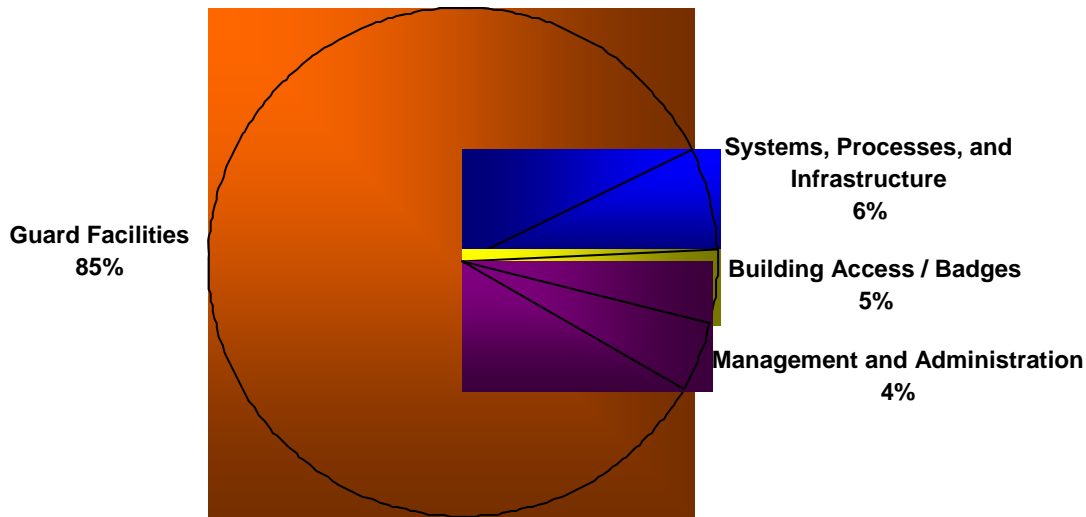
# 371 – Physical Security Headcount Overview



## Summary Points

1. The majority of work in the Physical Security is related to outsourced Guard Activities which account for 1 FTE as the Physical Security Supervisor and 23 FTE contract security officers.
2. The maintenance of the electronic physical security equipment (access control system, CCTV system, gate controls, alarms) has been the responsibility of 1 FTE.
3. The management of the Physical Security Department has been the responsibility of 1 FTE.
4. To meet current SAS 70, NERC 1200 and NODAL requirements additional electronic security equipment has been added during the past 2 years with the assistance of an additional 1 FTE technician.
5. New NERC CIP 006 Requirement 6 requires that every piece of physical security equipment be inspected and maintained on an annual basis. Due to this new requirement the NODAL 1 FTE technician position will be required on a permanent basis in CY2009.

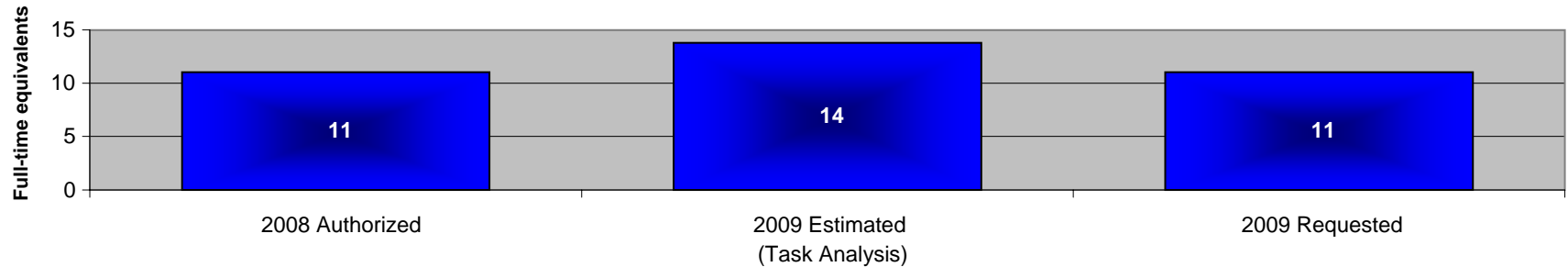
# 371 – Physical Security Allocation by Function



## Key Points

- ❑ NERC CIP 006 R6 now requires annual inspection and preventative maintenance with records
- ❑ Badge issuance and recovery programming requires more timely response
- ❑ Audit responses require more timely responses.

# 370 – Information Security Headcount Overview

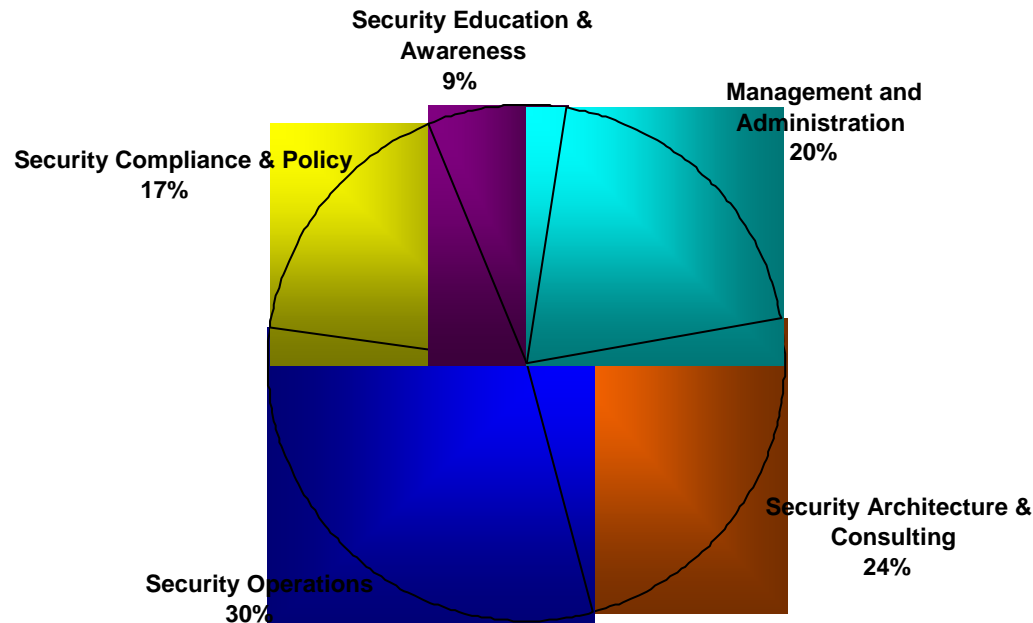


## Summary Points

1. Department 370 currently augments 9 FTEs with 2 additional contractors. In addition, the department staff logs the equivalent of 1 FTE through overtime to compensate for staff vacancies.
2. Department newly formed in CY2005-2006 but not fully operational until mid CY2007 which should be viewed as future planning baseline
3. The tasks analysis shows 14 FTEs worth of work. Department 370 is requesting 11 FTEs.
4. Department will contract for Outside contractor services as needed to meet unique/specialized security needs. Staff will continue some level of overtime to compensate for vacancies.
5. Increased automation and process realignments will be used to address the gap between Requested 2009 staff and Estimated 2009 Task Analysis staff numbers.

# 370 – Information Security

## Allocation by Function



### Key Points

- ❑ Department newly formed in 2005—fully operational in 2007
- ❑ Additional Nodal systems and more real-time cyber security events require increased staff
- ❑ Revised NERC Cyber Security Standards and continuous SAS70 Audits increase workload
- ❑ Ongoing ERCOT IT Technology refresh and new projects require continued security design and architectural support
- ❑ New NERC CIP Compliance Audits start in CY2010

- **Request Executive Committee and CEO approval of CY2009 Security Staffing needs for the conversion of two existing Nodal positions to ERCOT FTEs as follows:**
  - 1 Nodal Physical Security position to ERCOT FTE
    - Sr Physical Security Technician (Grade G)
  - 1 Nodal ISSD position to ERCOT FTE
    - Security Operations Analyst (Grade H)

Questions?



# ERCOT Organizational Deep Dive

LEGAL

Michael G. Grable

Vice President and General Counsel

**May 2008**



- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
<b>120 – General Counsel</b>	<b>20</b>	<b>23.4</b>	<b>21</b>
<b>Total</b>	<b>20</b>	<b>23.4</b>	<b>21</b>

## Summary Points

1. Due to the Energy Policy Act of 2005, Legal is handling new and growing responsibilities with no corresponding decrease in existing responsibilities.
2. Legal core functions are not significantly affected by Nodal, although transactions should decrease, while ADRs/PRRs should increase.
3. Many Legal employees work significantly more than 40 hours per week – 23.5 is the 2009 estimated workload but not necessarily the headcount.
4. One employee was recently transitioned from Finance to Legal (increasing Legal headcount to 21).

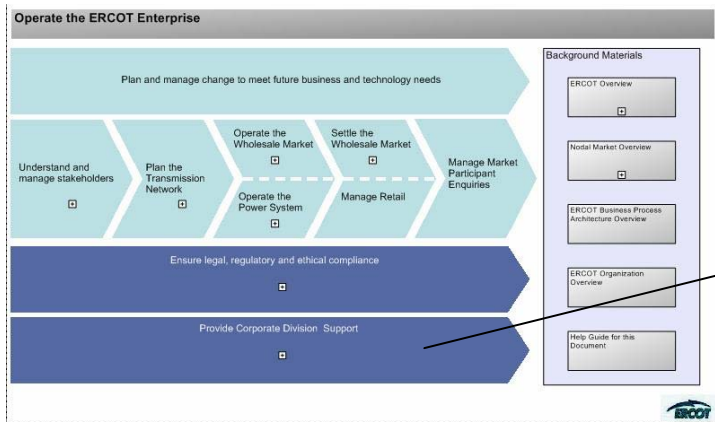
# Factors that Drive General Counsel Staffing Levels

- **New/Increased Federal Reliability Standards Regulatory Work**
  - Compliance, but also participation in FERC rulemakings and dockets and NERC and Texas RE Reliability Standards processes
- **Stakeholder Support**
  - Meetings
  - Protocol Revisions (Nodal and Zonal)
- **Increased Transaction Work**
  - Nodal Program
- **Transition to Nodal**
  - TPTF Support
  - Internal Departments Support

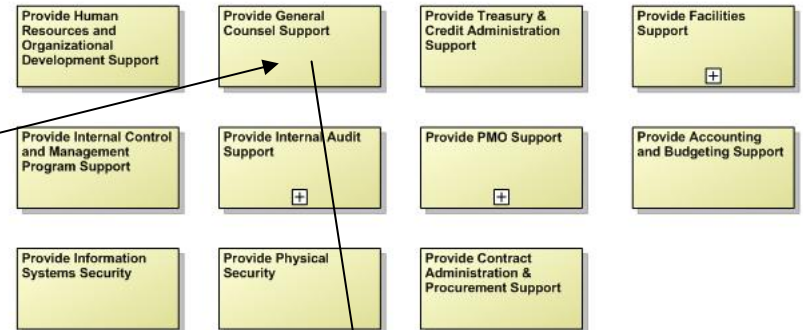


# Organization Overview

# General Counsel Business Process Overview



## Provide Corporate Support (Level 2)



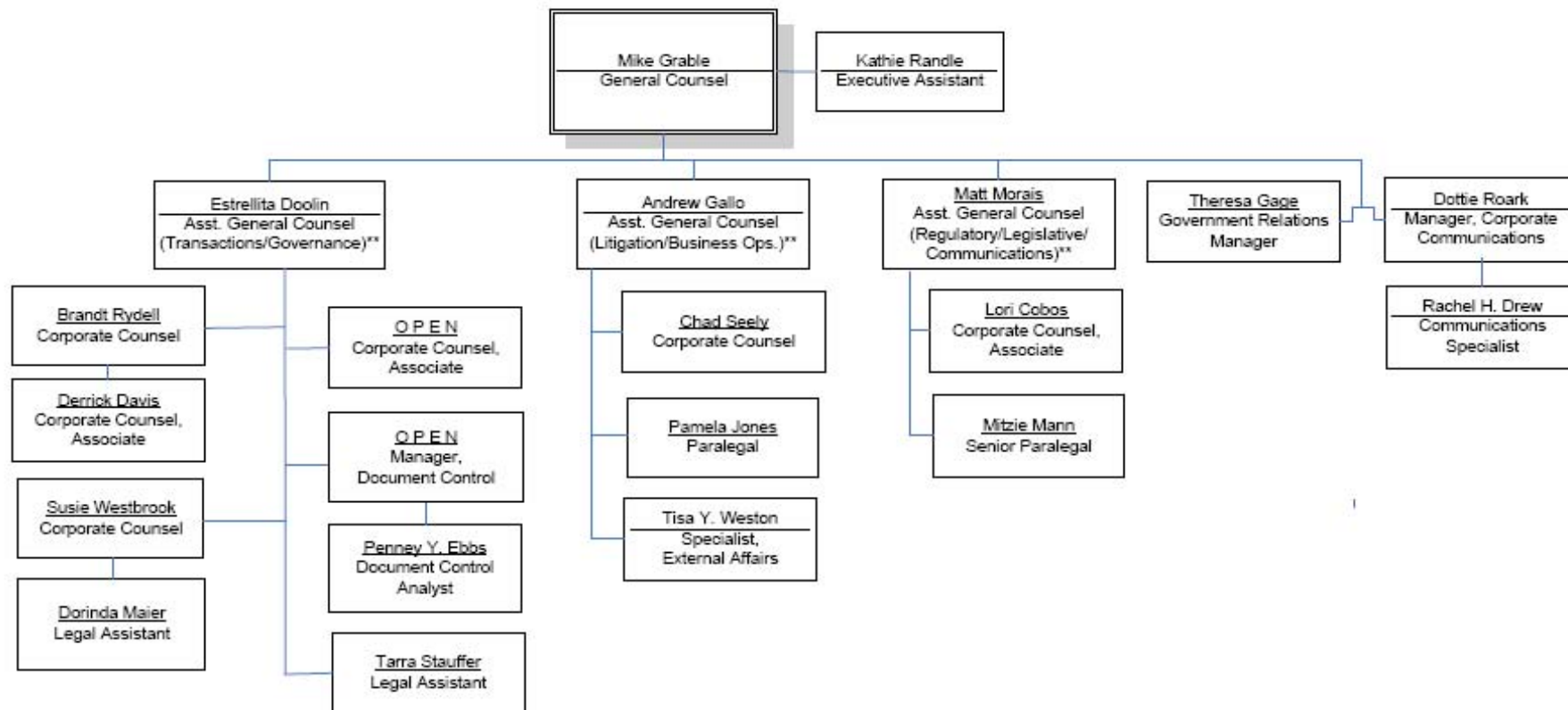
## Provide General Counsel Support (Level 3)





May 12, 2008

## General Counsel Organization



\*\* Denotes principal but partial responsibilities.

# General Counsel – Core Functions

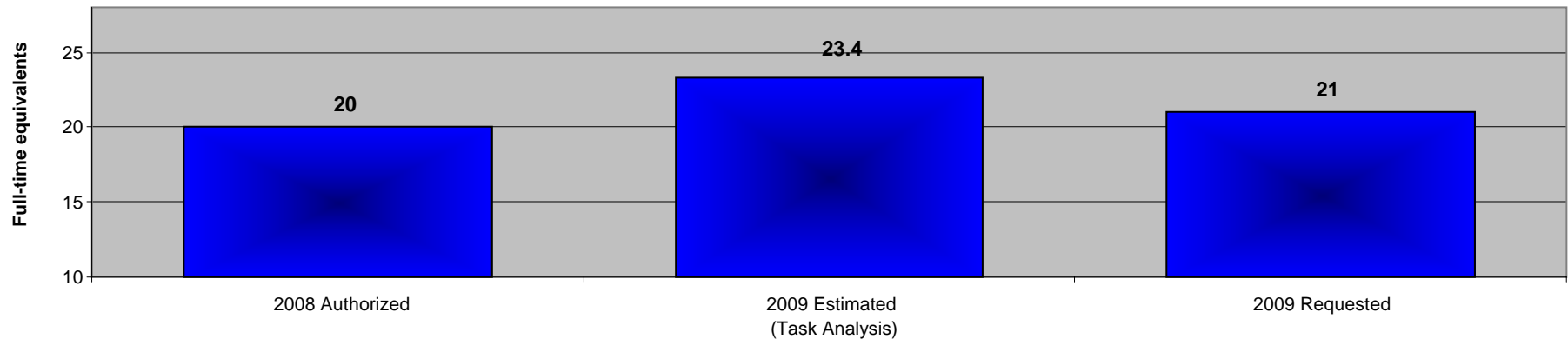
Litigation/ADR/ Ethics	Stakeholder & ERCOT Dept. Support	Support Board of Directors/ Governance	Regulatory/ Communication Support	Government/ Legislative Support	Transactions
<ul style="list-style-type: none"> <li>• Handle lawsuits (in-house or support outside attys), including research, drafting, discovery and other matters</li> <li>• Conduct research in connection ADRs and provide advice/counsel to ERCOT Management</li> <li>• Review/investigate EthicsPoint reports</li> <li>• Represent ERCOT in any Texas Regional Entity/PUC hearings for federal Reliability Standards</li> </ul>	<ul style="list-style-type: none"> <li>• Review NPRRs and PRRs (incl. IAs and ERCOT Staff comments)</li> <li>• Attend TAC, RMS, WMS, COPs, PRS, CWG, ROS, TPTF meetings</li> <li>• Annual antitrust training</li> <li>• Annual meeting planning/preparation</li> <li>• Support various votes (committees, membership)</li> <li>• Support H.R. re: compliance with laws; interface with regulatory agencies; Employee terminations</li> <li>• Support Clients Services, Finance, Market Operations, System Operations, Planning, Settlements</li> <li>• MP Registration</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare/distribute monthly Board packet</li> <li>• Take Board and Committee meeting minutes</li> <li>• Provide support re: procedural matters (votes, quorum, etc.)</li> <li>• Policy/Procedure update/maintenance</li> <li>• Retreat Coordination</li> <li>• Annual Director training</li> <li>• Bylaws maintenance</li> <li>• Support Board Committees (F&amp;A and HR&amp;G)</li> </ul>	<ul style="list-style-type: none"> <li>• Represent ERCOT in PUC fee cases, other dockets (e.g., CREZ), and rulemakings</li> <li>• Represent ERCOT in FERC rulemakings and dockets</li> <li>• Carry out crisis communications</li> <li>• Represent ERCOT on ISO-RTO Council Regulatory Committee</li> <li>• Respond to media requests</li> <li>• Prepare/publish newsletters</li> <li>• Handle Open Records responsibilities, including Public Information requests</li> <li>• Prepare and file reports to PUCT</li> </ul>	<ul style="list-style-type: none"> <li>• Liaison to Legislature and Congress</li> <li>• Monitor and track ERCOT-relevant bills and hearings, and communicate re same to Management and Board</li> <li>• Facilitate meetings and relationships between officers, executives, staff and Legislature, Congressional, and other governmental members and staff</li> <li>• Draft presentations and talking points</li> <li>• Prepare and file reports</li> </ul>	<ul style="list-style-type: none"> <li>• Provide corporate and transactional legal advice</li> <li>• Ensure compliance with Corporate Standards and other policies and procedures</li> <li>• Maintain VCM database</li> <li>• Handle audit and management-exception issues</li> <li>• Handle contract and consultant issues</li> <li>• Maintain record-retention and document-management policies</li> <li>• Review and approve invoices</li> <li>• Research and analyze corporate status of vendors</li> <li>• Participate in Co-CART, SRT, and PRT, plus other PMO meetings</li> </ul>





# Task Analysis

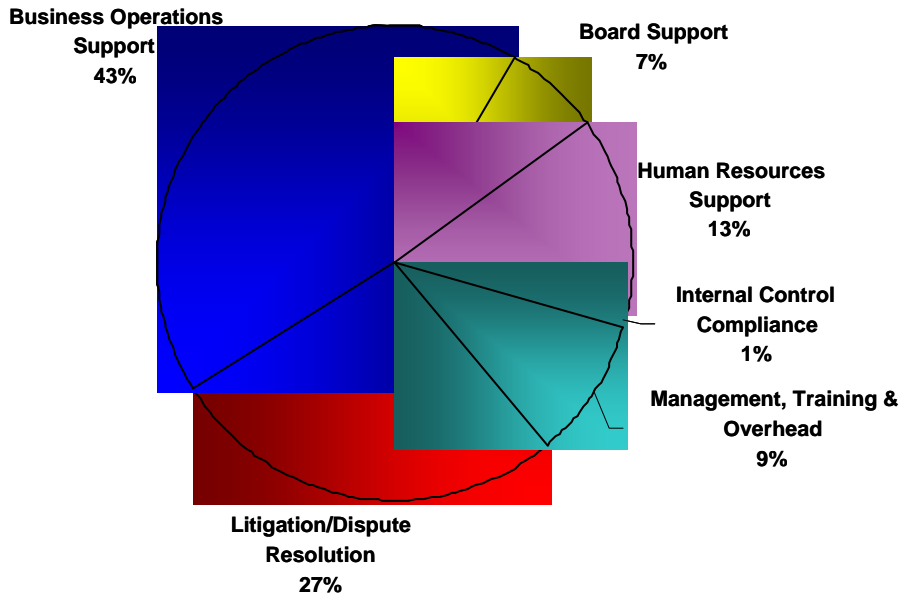
# General Counsel Headcount Overview



## Summary Points

1. Due to the Energy Policy Act of 2005, Legal is handling new and growing responsibilities with no corresponding decrease in existing responsibilities.
2. Legal core functions are not significantly affected by Nodal, although transactions should decrease, while ADRs/PRRs should increase.
3. Many Legal employees work significantly more than 40 hours per week – 23.5 is the 2009 estimated workload but not necessarily the headcount.
4. One employee was recently transitioned from Finance to Legal (increasing Legal headcount to 21).

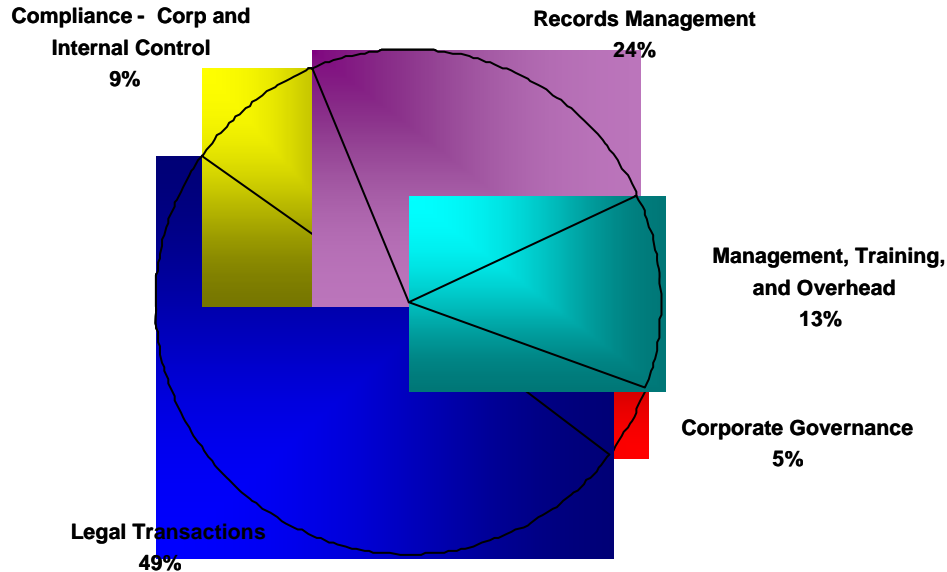
# Litigation and Business Operations Functional Overview



## Key Points

- ❑ Most Effort in “Business Operations”
- ❑ Work load should not change much after Nodal (but will shift)
  - ❑ ADRs/PRRs should increase
- ❑ Overflow work managed through extra hours, focusing on critical items, minimal outside counsel and cooperation with other staff

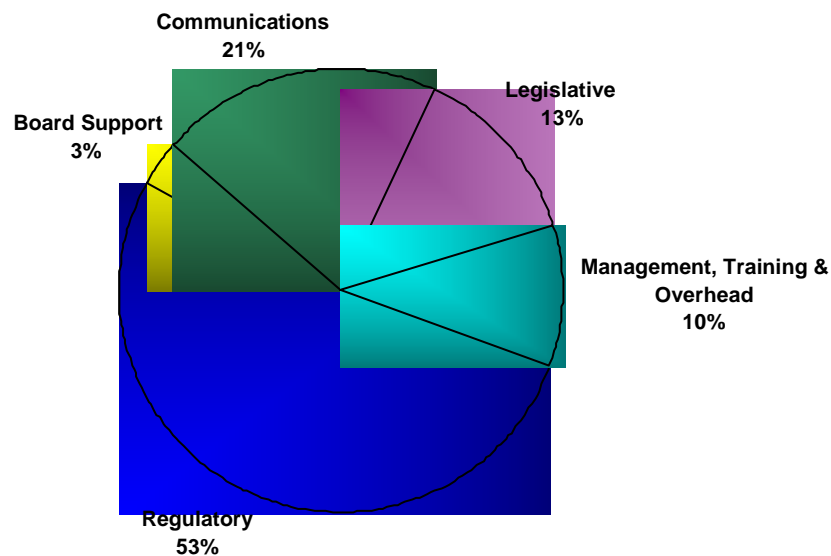
# Corporate Governance and Transactions Functional Overview



## Key Points

- ❑ Corp Gov, Compliance & Records Mgmt shouldn't change with Nodal
- ❑ Vendor contracts should decrease (from 475 – 550 SOWs to 300 – 350)
- ❑ Overflow work managed through extra hours, focusing on critical items, minimal outside counsel and cooperation with other staff

# Legislative, Regulatory, and Communications Functional Overview



## Key Points

- ❑ Regulatory load increasing with FERC and NERC regulation
- ❑ Regulatory communications increased since April 17, 2006
- ❑ Nodal has little direct impact
- ❑ Overflow work managed through extra hours, focusing on critical items, minimal outside counsel and cooperation with other staff



# ERCOT Organizational Deep Dive

INTERNAL AUDIT

Bill Wullenjohn

Director of Internal Audit

**May 2008**

- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**



# Summary of Findings



# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
180 – Internal Audit	7	7.8	7
Total	7	7.8	7

## Summary Points

1. Headcount remains consistent at 7 FTEs
2. Workload “opportunity” consistently exceeds headcount
3. Internal Audit prioritizes scope based on Management and Board requests.
4. Internal Audit risk ranks the audit plan annually; however, the potential audit universe currently exceeds more than 200 potential audit areas.

# Factors that Drive Internal Audit Staffing Levels

- **Establish an effective Internal Auditing Activity** - Completing the Annual Internal Audit Plan, as directed by the Finance and Audit Committee of the Board of Directors, fulfills the primary responsibility of the internal audit activity in assisting the Board in performing its fiduciary duty to monitor management.
  - As was noted in the development of the 2008 Internal Audit Plan, the Finance and Audit Committee expressed interest in more audits than Internal Audit was staffed to perform. This was resolved by some of these audits being designated as “Alternate Audits,” while others would be deferred to a future year.
- **Internal Audit responds promptly to Special Request Audits and Consulting Engagements.**
  - There were six special request audits and consulting engagements in 2007.
  - Requests are made by management, the Finance and Audit Committee, and the external auditor, PricewaterhouseCoopers LLP.

- **Audits that are required by ERCOT Protocol, Section 1.4, Operational Audit** *(This is a new Internal Audit Department responsibility for 2008 [Per Approved PRR 735 and NPRR 077]).*
- **Perform activities that enhance ethics and corporate governance.**
  - Plan, develop, and implement a flexible and ongoing fraud prevention and detection program.
  - Administer the EthicsPoint Hotline and respond in a timely fashion to related investigation and research activities prompted by EthicsPoint reports.
  - Provide weekly fraud prevention and ethics awareness training to new employees and contractors. Provide refresher training on fraud prevention to current employees as part of the annual Code-of-Conduct reaffirmation process.
- **Requirement to verify the implementation of all material audit points and findings reported in both Internal and External Audit reports.**



# Organization Overview

# Internal Audit – Core Functions

Director of Internal Audit	Lead Internal Auditor	Senior IT Auditor	Senior Internal Auditor - Ethics and Fraud Specialist
<ol style="list-style-type: none"> <li>1. Design, implement, and direct comprehensive and risk-based internal audit programs for the organization.</li> <li>2. Promote high levels of ethical awareness and conduct within the Company, and oversee independent investigations of potential ethical problems or conflicts of interest.</li> <li>3. Prepare periodic reports for management and, as appropriate, for the Finance and Audit Committee on significant issues related to internal control processes.</li> <li>4. Recruit and develop a professional audit staff with sufficient knowledge, skills, and experience.</li> </ol>	<ol style="list-style-type: none"> <li>1. Responsible for the Internal Quality Assurance Role within the Internal Audit Department.</li> <li>2. Track and manage the Department's ongoing compliance with professional standards and guidelines.</li> <li>3. Provide input into the Corporate Enterprise Risk Assessment process and the Annual Audit Plan as required by the Director of Internal Audit.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review and evaluate operating systems software and security controls over access to the Information Technology (IT) systems in use throughout the Company.</li> <li>2. Review and evaluate IT operations, engineering, and physical security for compliance with corporate security policies and procedures.</li> <li>3. Review and evaluate hardware configurations, IT systems, and operating procedures for compliance with corporate standards.</li> <li>4. Provide consultative services for security related initiatives.</li> <li>5. Track the status of Internal Audit's validation of completed tasks as reported in the Management Action Plan System database (MAPS).</li> </ol>	<ol style="list-style-type: none"> <li>1. Plan, develop, and implement an ongoing fraud detection and prevention program.</li> <li>2. Identify and research possible fraudulent transactions.</li> <li>3. Conduct investigations and interview individuals involved in possible fraud.</li> <li>4. Provide fraud prevention and ethics awareness training to new employees and contractors.</li> <li>5. Provide refresher training on fraud prevention to current employees as part of the annual Code-of-Conduct reaffirmation process.</li> <li>6. Administer the ERCOT EthicsPoint Hotline</li> </ol>

## Mission and Scope of Work

- Provide independent, objective assurance and consulting services to add value and improve the organization's operations.
- Provide a systematic, disciplined approach to evaluate and improve the effectiveness of ERCOT's risk management, control, and governance processes.

### Key Elements

- ☐ Accountability
- ☐ Independence
- ☐ Authority
- ☐ Responsibility
- ☐ Standards

## Within Internal Audit's Scope of Work:

- Determine whether the organization's network of risk management, control, and governance processes, as designed and represented by management, is adequate and functioning in a manner to ensure:  
  
“...Employee's actions are in compliance with policies, standards, procedures, and applicable laws and regulations.”

## Key Internal Audit Department Responsibilities: \*

- Develop and implement fraud prevention and detection measures.
- Promote high levels of ethical awareness and conduct within the Company, and conduct independent investigations of potential ethical problems or conflicts of interest. Notify management and the Finance and Audit Committee of the findings, as appropriate.
- Direct the company's Ethics reporting system (EthicsPoint).

\* As outlined in the job description for the Director of Internal Audit.

## **Accountability**

“...accountable to management and the Finance and Audit Committee of the Board of Directors.”

## **Independence**

“...reports administratively to the Chief Executive Officer and functionally to the Finance and Audit Committee of the Board of Directors...”

## **Responsibility**

“... shall develop and implement a flexible annual audit plan using appropriate risk-based methodology, including any risks or control concerns identified by management, and submit that plan to the Finance and Audit Committee...”



## Authority

“...shall have unrestricted access to all functions, records, property and personnel...”

“...Have full and free access to the Finance and Audit Committee...”

“...Allocate resources, set frequencies, select subjects, determine scopes of work, and apply the techniques required to accomplish ERCOT's audit objectives...”

## Standards of Audit Practice

“...shall meet or exceed the *International Standards for the Professional Practice of Internal Auditing* of The Institute of Internal Auditors.

## **The F&A Charter Includes Internal Audit Requirements**

- The Director of Internal Audit is the Chief Audit Executive at the Company.
- The Company's Chief Audit Executive shall report directly to the Committee.
- For administrative purposes, the Chief Audit Executive shall report to the CEO.
- The Committee shall approve an Annual Internal Audit Plan prepared by the Chief Audit Executive.
- The Chief Audit Executive shall:
  - (1) manage the execution of the Annual Internal Audit Plan,
  - (2) conduct investigations at the direction of the Chair and the Committee, and
  - (3) make periodic reports to the Committee at regularly scheduled Committee meetings and as otherwise directed by the Chair and the Committee.

## **With respect to Internal Audit:**

1. The Committee shall review with management and the Chief Audit Executive the charter, activities, staffing, and organizational structure of the internal audit function.
2. The Committee shall have final authority to review and approve the Annual Internal Audit Plan and all major changes to the Plan.
3. The Committee shall review, considering the recommendations of the independent auditors and the CFO, the scope of the Internal Audit Plan and the plan of work to be done by the Company's Internal Audit Department, and the results of such work.

## Internal Audit completed the following audits from 2003 through 2007

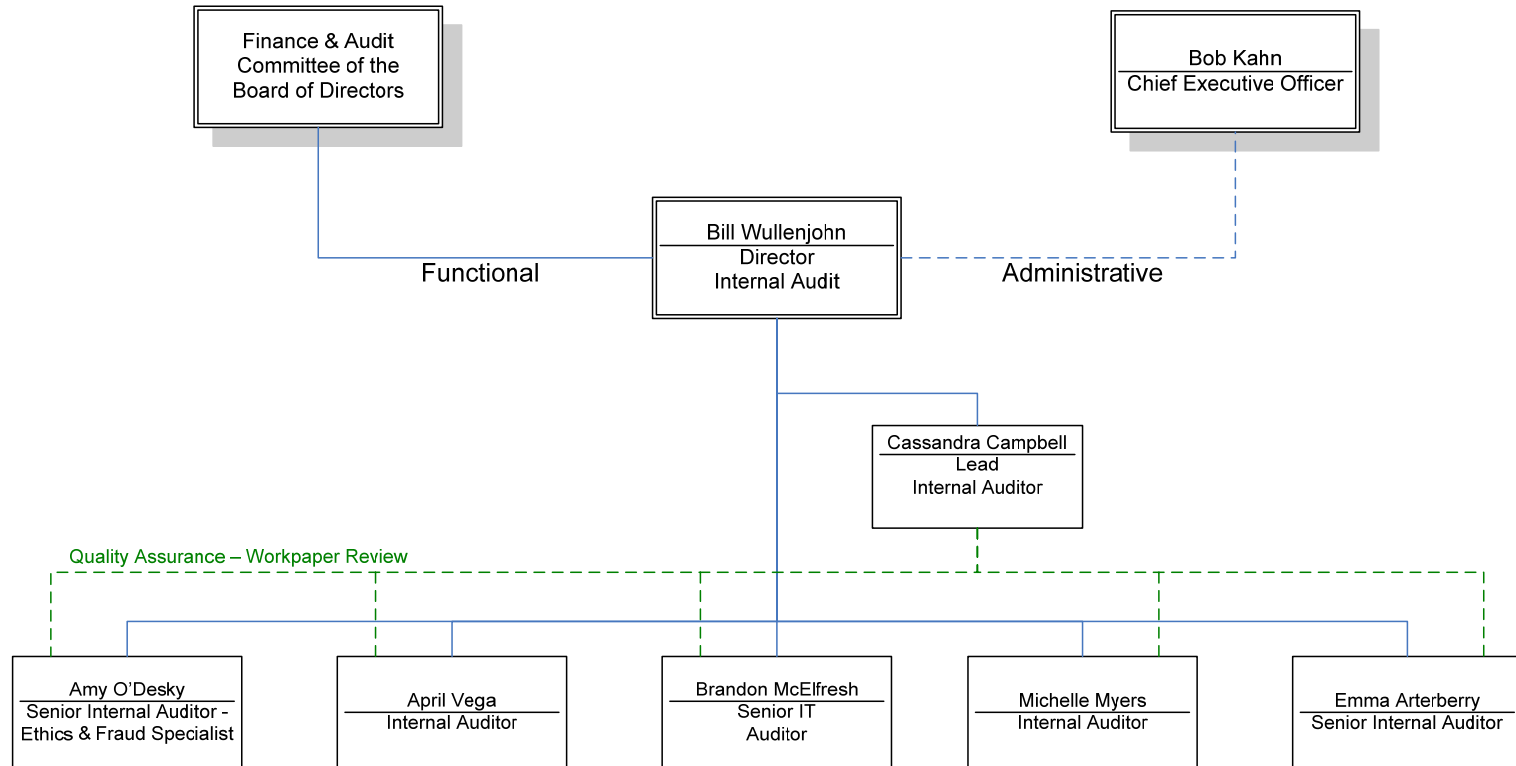
Year	Audit Reports Issued
2007	35
2006	22
2005	7
2004	7
2003	2

### 2007 Audit Reports

- ☐ Budget Process
- ☐ Procurement & Contract Administration
- ☐ Contractor Background Checks, Ethics Agreements, and Drug Screens.
- ☐ Registration & Qualification of Market Participants
- ☐ Nodal Ethics Compliance
- ☐ Business Continuity Plan
- ☐ Nodal Recruiting
- ☐ SAS 70 Consulting Support
- ☐ Procurement Short & Long Strings
- ☐ Ethics Compliance
- ☐ Employee Background, Ref., Drug Screens
- ☐ Nodal Employee Time Tracking
- ☐ Nodal Procurement Compliance
- ☐ Nodal Signing & Delegation of Authority
- ☐ Fixed Assets Additions
- ☐ Nodal and Non-Nodal Vendor Billing
- ☐ Fraud Auditing Program
- ☐ Accounts Payable
- ☐ CAISO Event
- ☐ PMO / DPO
- ☐ Others.....

# Internal Audit Organization Structure

## Internal Audit Department



Effective: 11/16/07

# Key Duties By Position

- **7 Authorized Positions in Internal Audit**

	<b><u>Grade</u></b>
– Director	O
– Lead Internal Auditor	K
– Senior IT Auditor	K
– Senior Internal Auditor – Ethics and Fraud Specialist	I
– Senior Internal Auditor	I
– <u>Two</u> Staff Internal Auditors	H

## **Director of Internal Audit**

Grade Level = O

- Overall responsibility for providing strategic direction, leadership, and planning for the Internal Audit function.
- Integrates, plans, and directs audit activity and fraud detection and prevention programs.
- Primary responsibilities include the audit and review of financial, operating, information technology (IT), and security functions to provide executive management and the Finance and Audit Committee of the Board of Directors with assurance as to the adequacy and effectiveness of the system of internal control, the effectiveness and efficiency of operations, the reliability of financial reporting, the safeguarding of the company's assets, compliance with applicable laws and regulations and respective policies and procedures, and accuracy and completeness of information.
- Professional Certifications and extensive Internal Audit experience required for this position.



## Lead Internal Auditor

Grade Level = K

- Responsible for reviewing all non-investigative audit work papers and taking a lead role in the development of the Department's Annual Audit Plan.
- Works under the direction and supervision of the Director of Internal Audit and performs financial and operational audits as assigned.
- Responsible for monitoring and reporting to the Director of Internal Audit on the Department's ongoing compliance with the *International Standards for the Professional Practice of Internal Auditing* of the Institute of Internal Auditors.
- Functions as audit project manager and oversees work of less experienced auditors.
- Professional Certification and Internal Audit experience required for this position.

## Senior IT Auditor

Grade Level = K

- Responsible for reviewing and evaluating the internal controls and practices for Information Technology (IT) functions within the Company, including, but not limited to, controls over access to IT systems such as the Energy Management and Market Operations System (EMMS), the Power Operations System (POS), Lodestar, SCADA, Siebel, and Lawson's suite of applications.
- Responsible for reviewing and evaluating the internal controls over the computer and operating systems, data centers, policies and procedures, and other information technology functions with the Company.
- Also responsible for providing ERCOT with consulting, advisory, and pre-audit testing services in preparation for the annual SAS 70 Type II audit performed by PricewaterhouseCoopers LLP.
- May also be assigned to perform financial and operational audits throughout the Company.
- Professional Certification required for this position

## **Senior Internal Auditor – Ethics and Fraud Specialist**

Grade Level = I

- Responsible for testing, quantifying, and reporting on the existence of fraud throughout the Company.
- Responsible for the administration of the EthicsPoint (ethics reporting) hotline and developing summary reports that are communicated by the Director of Internal Audit to management and the Finance and Audit Committee of the Board of Directors.
- May also be assigned to perform financial and operational audits throughout the Company.
- Provides ongoing Ethics Awareness and Fraud Prevention training to new employees and new contractors, as well as during the annual Code-of-Conduct reaffirmation process.
- May oversee the work of less experienced auditors.
- Professional Certification required for this position

## **Senior Internal Auditor**

Grade Level = I

- Responsible for performing financial and operational audits.
- Works under the direction and supervision of the Internal Audit Director and performs audits as assigned.
- May supervise the work of other auditors.

## **Internal Auditor**

Grade Level = H

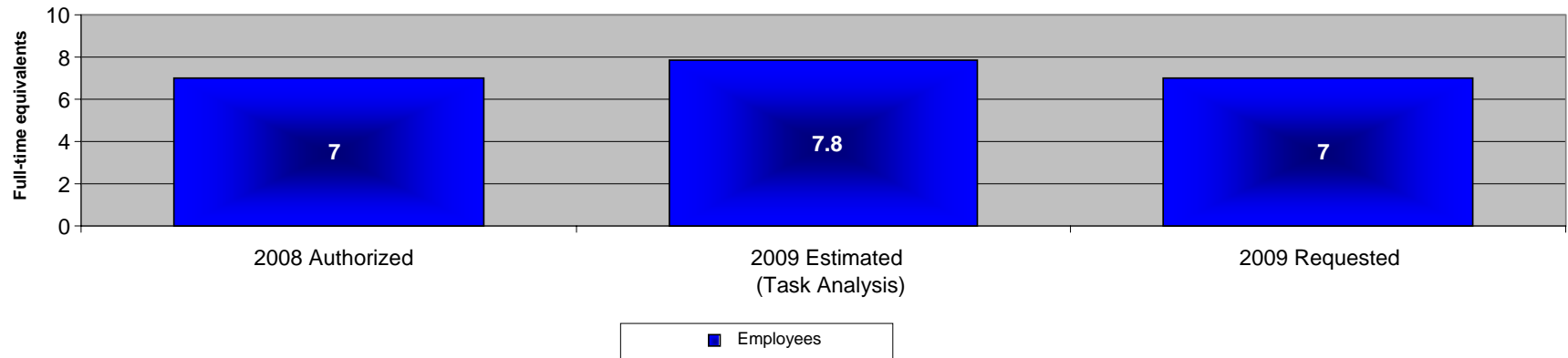
- Responsible for performing financial and operational audits.
- Works under the direction and supervision of the Internal Audit Director and performs audits as assigned.

- **PricewaterhouseCoopers LLP**
  - SAS 70 Type II Audit  
(\$735,000 Budgeted)
- **Institute of Internal Auditors**
  - Quality Assessment Review (QAR) of the Internal Audit Department  
(\$25,000 Budgeted)
    - Performed at least every 5 years
    - Completion of a QAR is a requirement of the *International Standards for the Professional Practice of Internal Auditing* of the Institute of Internal Auditors



# Task Analysis

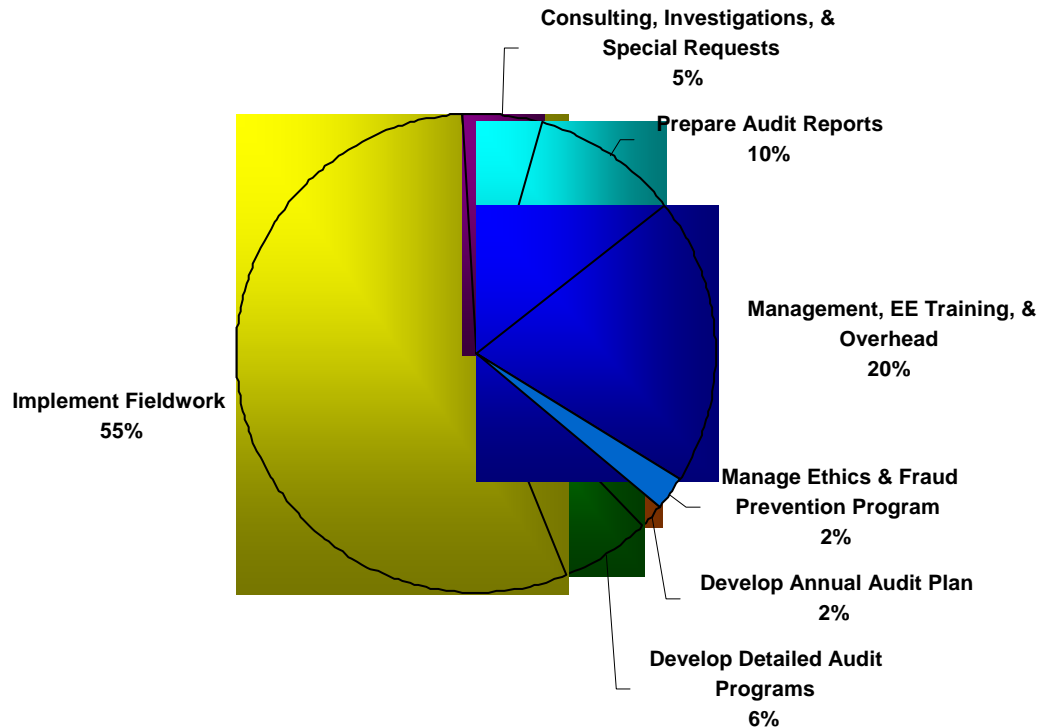
# 180 – Internal Audit Headcount Overview



## Summary Points

1. Headcount remains consistent at 7 FTEs
2. Workload “opportunity” consistently exceeds headcount
3. Internal Audit prioritizes scope based on Management and Board requests.
4. Internal Audit risk ranks the audit plan annually; however, the potential audit universe currently exceeds more than 200 potential audit areas.

# 180 – Internal Audit Allocation by Function



## Key Points

- ❑ The majority of department resources are performing actual audits (field work).
- ❑ The volume of work for the internal audit group is not impacted by nodal



# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B  
PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
1	Projects - Capital Reported in Project Server	Activities related to capital projects.	54,851.65
2	Congestion Management - ERCOT Grid	Activities related to managing congestion on the ERCOT grid to ensure reliability and functional stability.	54,500.30
3	Data Validation & Processing	Activities related to daily, weekly, quarterly, annual validations & operations; research performed to verify transaction data and issues with transactions in the retail market, including reporting on transaction improvement and market generated concerns of transactional issues; data acquisition and processing and EPS meter set-up; data processing (VEE); data upload to Lodestar; MV90 system maintenance; support of TDSP (Transmission & Distrib Service Provider) field meter work; high/low checks, administration of routine operations, systems, & business processes in support of EAA (Energy Analysis and Aggregation) functions; validation and processing of data submitted to ERCOT from the MPs (Market Participants) for use in operations activities, including network model data, ratings, dynamic ratings, resource test results, etc.; validation and verification of settlement and invoice calculations and system/business processes, working with EIS (Enterprise Information System) to troubleshoot data extract issues reported by market participants.	50,238.85
4	Nodal Commercial Systems	Nodal Commercial Systems (Development & Implementation)	47,023.00
5	Receive Training	Activities related to receiving training from sources such as a seminars, conventions, classrooms, or individuals. Employee training could include classroom settings, small groups, or one-on-one training. The training can be related to an employee's job functions or personal growth.	39,395.20
6	Nodal Infrastructure	Nodal Infrastructure	34,342.35
7	Stakeholder Support & Meetings	Activities related to providing documentation, research, and reports to support the information requirements of the TAC (Technical Advisory Committee), subcommittees, working groups, and task forces. This involves supporting the monthly stakeholder meetings as well as individual stakeholder requests.	25,334.90
8	Support-24x7 Level 2 Application Support	This is the primary function of Console Operations. It provides 24x7 system monitoring and level 2 support for IT.	22,745.85
9	Account Management Services	Activities related to managing the business relationship between ERCOT and Market Participants as well as potential Market Participants through phone calls, emails, account plans, conducting site visits, developing and facilitating training, maintenance of registration information and interaction at Market meetings. Serving as an information resource for new and existing MPs (Market Participant) on ERCOT policies, procedures, and Market rules via phone calls, emails, site visits, and interaction at Market trainings and meetings. Use of CRM (Customer Relationship Management) tools to log, track, follow up and manage MP information. Maintenance of Account Plans to manage MP relationships.	22,324.60
10	Support-24x7 IT System Operations/Monitoring	This is the primary function of Console Operations. It provides 24x7 system monitoring and level 1 support for IT.	21,179.25
11	Transmission Project Analysis	Activities related to regional transmission planning studies, independent reviews of transmission projects, development of 5-year plan, long-term system assessment and other transmission planning studies.	18,563.00
12	Outage Analysis/Coordination/Approval	Activities related to studies and support of calculations of potential costs of estimated transmission outages.	18,550.50
13	EMMS & MOMs Production Support	Level 3 production support for System and Market Operations; Level 3 production support PUC (Public Utilities Commission) and Potomac Economics in use of MOM (Market Oversight Monitoring) systems.	18,209.15
14	Nodal ERCOT Readiness/Transition (ERT)	Nodal ERCOT Readiness/Transition (ERT) (Development & Implementation)	16,833.25
15	Production Support	Activities related to the support of the production environment such as production maintenance and migrations, application security management, and supporting business users on production questions. This includes ensuring database are performing as expected, that all critical alerts are paged and attended to immediately, and that all space issues are addressed immediately. Also used for times when testing resources are brought in to assist with Production Support issues.	16,651.20
16	Transactions & Business Counsel	Activities related to reviewing/ drafting/ negotiating/ finalizing/ filing contracts.	15,700.95
17	Nodal Network Model Management System	Nodal Network Model Management System (Development & Implementation)	15,390.05
18	Nodal MMS Phase 2 Core Team	Nodal Market Management System Phase 2 Core Team	14,940.75
19	Accounting	Activities related to the Lawson Accounting System including preparing and entering journal entries, posting entries, and reporting on financial information. Also included are researching General Ledger account balances and vendor information.	14,913.50
20	Nodal Integration Testing	Nodal Integration Testing (Development & Implementation)	13,243.85

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
21	Regional Entity - Compliance Enforcement	Activities related to Compliance Enforcement.	12,718.25
22	Operate/Maintain ERCOT Facilities	Activities related to operating and maintaining ERCOT facilities.	12,658.80
23	Prepare or Provide Training	Activities related to the preparation of training materials, including rehearsals as well as actual training. Employee training could include classroom settings, small groups, or one-on-one training. The training can be related to an employee's job functions or personal growth.	12,523.45
24	Maintain Network Model & One-line Displays	Activities related to the acquisition and integration of data used to model the power system in the network model, including the Service Request process and the modifications and enhancements of the network model to reflect changes to the actual physical power system.	12,346.50
25	Nodal Integration & Design	Nodal Integration & Design (Development & Implementation)	11,991.65
26	Create Processes, Procedures & Standards	Activities related to creating new methodologies related to both existing and new duties. This is mostly related to taking a new or current process and develop the process and procedure to perform this function on an ongoing basis. Once the new process or procedure is created, a more appropriate category is found in which to record the function.	11,903.90
27	Nodal Support & Administration	Nodal Support & Administration	11,719.65
28	Budget & Goals	Activities related to development of departmental, divisional, or company-wide budgets and goals and monitoring progress towards those goals.	11,476.75
29	Balancing	Activities related to balancing the load forecast. Sys Ops does this every 15 minutes and is part of its energy balancing authority.	11,339.00
30	LAN Design, Implementation & Maintenance	Activities related to LAN design, implementation, and maintenance.	11,138.00
31	Procurement	Activities related to obtaining goods or services (e.g. completing forms, corresponding with Procurement personnel, etc.).	10,886.70
32	Market Operations Support	Activities related to supporting other departments within Market Operations. This includes Exchange market information that applies to planning and reporting requirements.	10,784.50
33	Audits - Internal	Activities involving research, analysis, and reporting to assist Internal Auditors with annual or periodic audits and the tasks associated with addressing and reporting on audit findings.	10,606.25
34	Nodal Enterprise Integration	Nodal Enterprise Integration (Development & Implementation)	10,107.70
35	Nodal Enterprise Data Systems	Nodal Enterprise Data Systems (Development & Implementation)	9,457.25
36	Deskside Support	End user support of deskside systems.	9,407.05
37	Nodal Congestion Rev Rights	Nodal Congestion Revenue Rights (Development & Implementation)	8,674.50
38	Windows Administration	Activities related to the administration computer systems using the Windows platform.	8,637.25
39	Engineering Studies	Specific analyses of varying conditions of the power system, including voltage, angular stability, power flow analysis, contingency analysis, evaluation of possible remedial operating plans and mitigation plans for contingent operations.	8,580.75
40	Nodal INFR IBM Migration Factory	Nodal Infrastructure IBM Migration Factory	8,442.00
41	Operations Reliability Plan & Unit Commitment	Activities related to reliability planning and unit commitment.	8,296.00
42	Board Support & Meetings	Activities related to providing documentation, research, and reports to support the information requirements of the Board of Directors. This involves supporting the monthly board meetings as well as individual board member requests.	8,076.55
43	Taylor Facilities Operations	Maintain and manage the Taylor facilities.	7,664.95
44	User Acceptance Testing	Activities related to testing of system changes and user acceptance testing.	7,540.25
45	Nodal Program Control	Nodal Program Management	7,330.60
46	Nodal MMS Phase 1	Nodal Market Management System Phase 1	6,961.50
47	Nodal Early Delivery System (EDS)	Nodal Early Delivery Systems (Development & Implementation)	6,942.35
48	Release Management	Activities related to the planning, implementation, and support of release management of Zonal Projects and applications.	6,805.25
49	Operations Support	Any activity related to supporting operations. On call, migrations, environment support. Providing operations training that is not otherwise captured as part of a project.	6,655.15
50	Nodal MER Training	Nodal MER Training (Development & Implementation)	6,497.50
51	UNIX Administration	Activities related to administration of UNIX systems.	6,355.70
52	Market/General Communication	Provide timely notifications to Market Participants for retail system changes, planned and unplanned retail commercial operation outages, and retail transactional processing issues. Conduct bi-weekly Retail Market Calls with the Market Participants to help support CRs (Competitive Retailer) and TDSPs (Transmission and/or Distribution Service Provider) in performing their business functions with ERCOT and between other Market Participants as well as to facilitate open communications between participants. Completion of scheduled and ad hoc market notices and bulletins for system changes, protocol change implementation, system outages, information request surveys.	6,254.25
53	Nodal EMS Phase 2 Development	Nodal Energy Mgmt Systems Phase 2 Development	5,956.50

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B  
PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
54	Nodal Energy Mgmt System	Nodal Energy Mgmt Systems	5,737.00
55	Strategic Management - Corporate	Activities related to shaping, evaluating and correcting the strategic course of ERCOT. Examples include company "town hall" type meetings (Talk n' Tacos). Also, attending company meetings to listen or participate in discussions related to key projects such as NODAL.	5,581.25
56	Compliance Monitoring	Activities involving development of the compliance program as well as monitoring compliance to ensuring adherence to processes and procedures such as site access monitoring, annual meter test review and processing, failure notification generation and processing, submission of required documentation, and meter seal request processing.	5,419.90
57	Recruiting Personnel	Activities related to the recruiting of personnel, including resume review, interviews, hiring requisitions, offer approvals, etc.	5,279.50
58	Market Documentation Review & Approval	Activities include reviewing documents and providing subject matter input at meetings. This specifically includes design proposal review & processing; temporary exemption review & processing; site approval documentation review & processing; and review of market documents such as PRRs (Protocol Revision Request), SCR (System Change Request), guides, etc.	5,116.75
59	Application & Systems Monitoring	Activities related to monitoring applications and systems using HP OpenView to proactively troubleshoot and plan for capacity. This includes the daily operational maintenance of HP OpenView systems, configuring of thresholds, alarms, rule SETs (Standard Electronic Transaction), and email alerts.	5,114.90
60	PUCT Support	Activities involving preparing, developing, and updating reports for the PUCT (Public Utilities Commission of Texas).	4,989.70
61	O&M New Development	ERCOT related work such as an upgrade of enabling software not captured under a project (tomcat upgrade), providing assistance to another department, etc.	4,906.00
62	Provide Technical Support to System Operations	Activities related to the technical support of operations processes on an ongoing basis, providing engineering support as needed to control room personnel, and interfacing with MP (Market Participant) operations personnel, including their support personnel.	4,669.50
63	Credit - QSE/Market Participants	Activities related to Qualified Scheduling Entities (QSE) and/or Market Participants.	4,561.50
64	Software Development	Activities related to developing custom scripts to augment support of implemented security tools.	4,548.50
65	Governmental & Regulatory	Activities related to regulatory issues involving TCRs (Transmission Congestion Rights) or Renewable Energy.	4,498.10
66	Storage Resource Management	Activities related to the planning, implementation, and support of storage resources for Zonal Projects and applications.	4,403.50
67	EMMS Application Development & Enhancement	Activities related to capital and O&M (operations & maintenance) projects for development and or enhancement of applications used in the operations of the power system. This includes SIR (System Incident Report) analysis; SIR (System Improvement Request) development, testing, release and migration support; and support software and modeling.	4,371.50
68	Retail Market Analysis/Reporting	Activities related to analysis and reporting of retail market data such as 867 data loading, 814_20 changes to ESIID (Electric Service Identifier) information, etc. It also includes fulfilling ad hoc and routine data requests, preparation of presentations, and ongoing operations in support of (retail transaction impact wholesale settlement).	4,215.25
69	Market Participant Registration	The procedures and processes employed to add and edit market participants onto the ERCOT registration system (Siebel), log and file registration forms, and perform research and reporting of registration status of market participants as needed.	4,167.00
70	Maintain Planning Databases	Activities related to keeping up a set of databases for use within Operations Planning and Day Ahead operating processes; this includes updating the processes as necessary for protocols changes, system changes, etc. Steps involved include: Prepare Steady State, Dynamics, System Protection, Capacity Demand Reserve, Demand & Energy data.	4,146.85
71	Process Interconnection Requests	Activities related to participation in the interconnection analyses performed by System Planning.	4,137.55
72	Maintain Processes & Systems	Activities related to participating in cross-organizational processes and procedures to coordinate system operations with other company functions, including, but not limited to Settlement, Client Services, System Planning, ERCOT Compliance, etc. It also includes maintaining department processes, source code control procedures, coding standards creation, and running test scenarios for business not related to an SIR (System Improvement Request).	4,106.25

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
73	Protocol Development & Maintenance	Activities related to identifying needed changes to the protocols for ERCOT responsibilities and operations processes and participation in analysis and processing of all PRRs (Protocol Revision Request), particularly with regard to the feasibility of implementation within the ERCOT systems.	3,935.75
74	Nodal MER MIS	Nodal MER MIS (Development & Implementation)	3,902.75
75	Industry Meetings (NERC, FERC, etc)	Attendance at industry meetings related to renewable energy and/or TCRs (Transmission Congestion Rights).	3,896.25
76	Employee Benefits	Periodic meetings in regards to employee benefits. i.e. yearly medical benefit meeting, money purchase plan etc.	3,879.75
77	Security Operations	Activities related to monitoring, reporting, documentation and coordination of security events.	3,867.35
78	Nodal MER Other	Nodal MER Other (Development & Implementation)	3,808.75
79	Payroll	Payroll processing and maintenance.	3,804.00
80	WAN Design, Implementation & Maintenance	Activities related to performing WAN (Wide Area Network) network management responsibilities.	3,682.00
81	Nodal EMS Phase 1	Nodal Energy Mgmt Systems Phase 1	3,478.25
82	Operations Training Seminar	Activities involved in the creation and deliverance of a presentation for the annual Operations Training Seminar. This includes meetings and rehearsals.	3,462.20
83	State Estimator Support	Activities related to the engineering and other technical support, including network model adjustments, to keep the State Estimator application functioning within requirements.	3,437.75
84	Administer Compliance Program	Activities related to the day-to-day administration of the NERC (North American Electrical Reliability Council) and ERCOT Compliance Enforcement Programs and includes attending compliance related meetings and completing associated work assignments.	3,382.75
85	Employee Access Provisioning	Activities related to granting access to Microsoft Project Server and Professional. It also includes taking care of Node access tasks and helpdesk tickets to create new users and to terminate users who have left the company or group.	3,352.00
86	PUCT/NERC/FERC/DOE Reporting	Activities related to preparing, developing, and updating reports for regulatory purposes either at a state-wide (Public Utilities Commission of Texas) or federal level (NERC (North American Electrical Reliability Council) / FERC (Federal Energy Regulatory Commission) / DOE (Department of Energy)).	3,327.00
87	Systems Maintenance	Activities related to the maintenance of implemented systems and technologies. Includes updates, testing, script review, reconfiguration, rebuilds, bug fixes, maintenance SIR (System Incident Report) implementation, production verification, and deskside support to resolve system issues.	3,322.50
88	Market Flight Testing	Activities directly associated with the operation, setup, execution, and management of PUCT (Public Utilities Commission of Texas) mandated Test Flights for MP (Market Participant) Certification to the Retail Market. Excludes Flights that involve a TX SET Version upgrade.	3,321.50
89	Projects - O&M Reported in Project Server	Activities related to O&M projects.	3,233.75
90	O&M Strategic Management.	Activities related to the management of day to day IT O&M (Operations & Maintenance) activities and projects.	3,157.00
91	IO Prog Sup (CART & Internal Reporting)	Activities related to supporting and participating in the IO CART (Information Ops Continuous Analysis and Review Team)--includes Project Managers, Resource Managers, and DPO (Divisional Project Office)--regarding PMO (Program Management Office) process, procedures, tools, and non-capital project activities. This is the normal category for use by the IO DPO (Divisional Project Office) Manager as well as other Project Managers to use in support of non-capital project activities (normal departmental activities).	3,156.50
92	Cyber Security	Activities related to information technology security.	3,146.00
93	Load Resource / BUL (Balancing Up Load ) Management	Activities involving work performed on ERCOT-administered load participation programs.	3,140.75
94	Develop Long-term Load Forecast	Activities involving calculating and forecasting energy demand.	3,099.00
95	Data Center Management	Activities associated with managing the data centers.	2,930.00
96	CSC / TCR (Transmission Congestion Rights) Annual & Monthly Analysis	Activities related to determining and evaluating CSC (Commercially Significant Constraint) / TCR (Transmission Congestion Rights) quantities on a monthly basis and the determination of commercially significant constraints, related zones and CREs (Closely Related Element) on an annual basis. This includes determining annual and monthly transmission congestion rights amounts and providing this information to the auction group.	2,849.50
97	Audits - External	Activities involving research, analysis, and reporting to assist External Auditors with annual or periodic audits. This includes annual financial audits, periodic sales tax audits, or audits of internal control.	2,794.00
98	Nodal INFR EIS AIX Migration	Nodal Infrastructure EIS AIX Migration	2,790.25

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
99	SIR Coding	Writing code associated to work accomplished for a specific SIR (System Incident Report), typically the SIR number would be placed in a comment on the timesheet.	2,768.00
100	SIR Analysis	Research and analysis necessary to arrive at a technical solution for a SIR (System Improvement Request).	2,636.50
101	Support Dispute Resolution	Support activities related to financial settlement and ADR (Alternative Dispute Resolution) dispute resolution, as well as EPS (ERCOT Polled Settlement) meter data disputes.	2,618.50
102	Critical Infrastructure Protection	Activities related to security of cyber, physical, and operations functions and the critical infrastructure related thereto; this includes activities of the NERC (North American Electrical Reliability Council) CIPC (Critical Infrastructure Protection) and the ESISAC (Electricity Sector Information Sharing and Analysis Center), DHS (Department of Homeland Security), and DOE (Department of Energy) related to the CIP (Critical Infrastructure Protection) processes.	2,604.75
103	Security Consulting	Activities related to providing guidance and suggestions to improve information security.	2,522.00
104	Database Design/Install/Script/Code	Running database maintenance scripts etc. and participating in database design meetings for long term solution.	2,506.50
105	Steady State & Dynamic Simulations	Activities related to a specific subset of engineering studies related to steady state and dynamic stability analysis. This includes performing voltage and transient stability studies of the ERCOT power system.	2,500.50
106	Process Improvement	This involves examining existing processes and procedures, correcting deficiencies, evaluating alternatives, conferring with others to evaluate their participation and needs, and defining and documenting revisions based on the analysis.	2,468.05
107	Database Admin. Support -SIRs, Projects, & Users	DBA (database administration) activities for SIRs (System Incident Report) created by Development teams and activities involved with other O&M (Operations & Maintenance) projects.	2,463.00
108	Nodal Market Mgmt System	Nodal Market Management System	2,435.10
109	Records Management	Activities involving managing records that require storage for a specific period of time.	2,285.50
110	Regional Entity - Organization Registration & Certification	Activities related to Organization Registration & Certification.	2,237.50
111	Change Management	Activities associated with change management such as planning, submittal, review, implementation, approval and support of OCCs (Operational Change Control). This includes participation in CRB (Change Review Board) and OCC meetings.	2,236.25
112	Calculate System Operating Limits	Activities related to daily security analysis and establishment and posting of the power system SOLs (system operating limits) including CSCs (commercially significant constraint) and other identified interfaces.	2,172.50
113	Employee Relations	Activities related to employee welfare, performance evaluation, goals, issues and discipline.	2,136.25
114	Tier 5 Backup Services	Activities related to the planning, implementation, and support of tape and archive requirements of Zonal Projects and applications.	2,127.25
115	SO Prog Support (CART & Internal Reporting)	Activities related to supporting and participating in the SO CART (Systems Operations Continuous Analysis and Review Team)--includes Project Managers, Resource Managers, and DPO (Divisional Project Office)--regarding PMO (Program Management Office) process, procedures, and tools.	2,067.75
116	Regional Entity - Reliability Standards	Activities related to Reliability Standard Development.	2,022.25
117	SIR Testing	Activities related to integration testing of SIRs (System Incident Report) and system fixes that are handled by SIRs.	2,015.25
118	Nodal MMS Outage Scheduler	Nodal Market Management System Outage Scheduler	1,999.50
119	Employee Compensation	Activities related to compensation policies and structure.	1,989.25
120	Program & Project External Reporting	Activities related to program and project reporting and maintaining compliance with external reporting requirements on programs and projects. It also includes communications with market regarding project status and other PMO (Program Management Office) activities.	1,903.50
121	Review/Report System Operations Activity-Internal	Activities related to internal review and development of operating reports summarizing system operations activities including, but not limited to, the monthly operations report to the ERCOT ROS (Reliability and Operations Subcommittee) and OWG (Operations Working Group).	1,895.75
122	Nodal MMS Phase 2 Support	Nodal Market Management System Phase 2 Support	1,876.50
123	Market Guide Development & Maintenance	Activities to develop and maintain market guides. This includes developing/editing guide Revision Requests and guide Revision Request comments, processing guide Revision Requests, developing/reviewing recommendation reports, preparing/reviewing Guide postings and posting of any of above documents.	1,853.25

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
124	Software Maintenance	Activities related to updating custom scripts, providing bug fixes, patches and upgrades in a non-production environments.	1,825.50
125	Litigation	Response to internal and external litigation activities including depositions and testimony .	1,812.65
126	Market Information Requests/Support	The processes and procedures followed to analyze market participant transactions in wholesale operations and settlement for research and reporting, facilitating the order and delivery of data extracts as requested from market participants, and manage responsibilities of maintaining market information on the public MIS.	1,808.50
127	Policy, Oversight, & Special Projects	Development of policies and procedures within ERCOT's Governance Structure and activities related to special 'one off' projects and initiatives relating to Governance and Oversight.	1,758.10
128	Market Participant Qualification	Activities related to supporting the registration of new Competitive Retailers or Opt-In MOU/EC (Municipally Owned Utility/Electric Cooperative) TDSPs (Transmission & Distribution Service Provider), as well as the changing of market participant trading relationships. This includes qualifying a QSE (Qualified Scheduling Entity) for operations and/or ancillary services.	1,741.55
129	CO Prog Sup (CART & Internal Reporting)	Activities related to supporting and participating in the CO CART (Corporate Ops Continuous Analysis and Review Team)--participants include Project Managers, Resource Managers, and DPO (Divisional Project Office)--regarding PMO (Program Management Office) process, procedures, and tools. This includes participation in Corporate Project Management Office activities related to allocating funds to various projects, attendance of COCART meetings, review of agenda items, and performing assigned COCART action items.	1,730.50
130	Corporate Risk Analysis & Planning	Activities related to analyzing and assessing risk to ERCOT and the Texas Electrical Grid on an enterprise-wide basis including analysis, support, meeting preparation and attendance, communications, and training.	1,643.75
131	Physical Security	All activities involved in the research, designing, planning, installation and maintenance of the physical security platform.	1,642.95
132	License Compliance	Activities associated with licensing and warranties of IT equipment such as SUN, HP, IBM and Dell warranties and software support such as Enterprise Agreement activities and software inventory.	1,613.50
133	Capital Project Delivery Mgmt	Activities associated with management of capital projects such as CART (Continuous Analysis and Review Team) meetings and documentation for capital projects.	1,550.00
134	PRR/CSR Impact & Cost Benefit Analysis	Activities related to analyzing PRF/CAF forms, PRR (Protocol Revision Request) / SCR (System Change Request) review, and OGRRs (Operational Guide Revision Request) with regard to impact upon ERCOT operations practices and procedures, and estimated cost impact in money and resources. Utilized by MODPO (Market Operations Division Project Organization) staff to capture hours spent researching, creating and documenting Impact Analyses associated with Protocol Revision Requests/System Change Requests.	1,540.75
135	ICMP	Activities to comply with updating or creating documents used in the ICMP (Internal Control Management Program), the START database for internal control and process narratives.	1,516.75
136	Manage the ERCOT Grid	A general category for activities related to overall system operations planning coordination within system operations.	1,491.00
137	Cash Management	Activities associated with cash management.	1,487.25
138	Nodal EMS Phase 2 Core Team	Nodal Energy Mgmt Systems Phase 2 Core Team	1,487.00
139	Hardware/Software Maintenance Renewal Admin.	Activities related to managing renewable hardware maintenance contracts.	1,484.00
140	Facility Access	Activities that involve the control of physical access to ERCOT facilities.	1,442.00
141	EMMS Database Load Support	EMMS (Energy Market Management System) database load modeling, testing, & migration. This includes periodic updates, changes, and revisions to the databases as the database loads require a complex coordination process to ensure transitions between databases.	1,397.50
142	Regional Entity - General & Administration	Activities related to General and Administration.	1,393.25
143	MO Program Support (CART & Internal Reporting)	Activities involve participation on MO CART (Market Ops Continuous Analysis and Review Team) for system changes and support of Market Operations program area. Used only for attendance at MO CART and activities directly related to MO CART. It specifically includes PMO (Program Management Office) process, procedures, and tools.	1,380.25
144	Review/Report System Operations Activity-External	Activities related to the provision of operating reports summarizing operating activities, including the presentation of the reports to stakeholder groups or other entities external to ERCOT, Inc.	1,318.70
145	DC - Ties Management	Activities related to DC - Ties Management.	1,318.00

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
146	Strategic Management - Information Technology	Activities related to shaping, evaluating and correcting the strategic course of the department. Examples include meetings to listen or participate in discussions related to key projects.	1,240.75
147	Load Frequency Control	Activities related to monitoring load frequency.	1,198.00
148	Nodal EMS Phase 3 Development & Testing	Nodal Energy Mgmt Systems Phase 3 Development & Testing	1,183.60
149	RO Program Support (CART & Internal Reporting)	ROCART (Retail Operations Continuous Analysis and Review Team) project planning, administration, review, and tollgate analysis and decision making for projects going forward and through completion, but not actual work on the project.	1,177.00
150	Administer Renewable Energy Credit	Activities related to administration of the TX Renewable Energy Credit Program.	1,153.00
151	Nodal EMS Phase 2 Support	Nodal Energy Mgmt Systems Phase 2 Support	1,142.00
152	System Analysis	Activities related to special studies requested by MPs (market participant) or by ERCOT Operations that may not be part of an ongoing operations process.	1,124.00
153	Participation in NERC Activities	Activities and participation in general NERC (North American Electrical Reliability Council) meetings that are not specifically included in other NERC (North American Electrical Reliability Council)-related activities.	1,095.55
154	Security Support/Coordination	Activities related to coordination of operating procedures related to operating activities to ensure the ERCOT system is operating reliably. This includes participating in the LOBSC (Line of Business Security Committee) meeting and tasks associated with day to day security. Utilized by designated Line of Business Security Committee Liaison from MODPO (Market Ops Divisional Project Office) to track attendance and updates to department staff. Not used for security projects.	1,076.20
155	EA - Standards/Guides/Plans	Activities related to enterprise architecture planning, standards development and overall strategy not specific to a discipline.	1,072.50
156	ITEST/CERT/MOTE Environ Support	Support integration Testing Environments for each corresponding production environment: ITEST (Integration Testing), CERT (Certification Testing), and MOTE (Market Operation Test Environment).	1,033.10
157	Manage Settlement Statements, Invoices, Reports	Activities related to management of settlement business processes and validations related to settlement statement, invoices, and reporting.	1,020.75
158	Maintain System Operations Procedures	Activities related to documentation and maintenance of internal operations planning and production processes and implementing changes based on Sys Ops procedures.	986.25
159	Guard Force Management	Activities involving all aspects of managing the guard force contract including manpower and contractual issues.	923.25
160	Transmission Congestion Analysis	Activities related to steady state studies and the analysis of the power system specifically related to determination of transmission congestion and development of operations requirements related to the management of that congestion.	909.75
161	Level 3-Technical Problem Resolution	Resolution of production and / or test environment issues typically escalated by operations, business, and testing groups. This is related to in-depth participation in a particular event or emergency issue with operations. Use this activity for the resulting detailed analysis and problem solving.	904.25
162	Quarterly Performance Measures	Activities related to preparation, delivery, and follow-up initiatives supporting the QBR (Quarterly Business Review) meetings for analyzing corporate, divisional, and departmental performance and risk assessment.	904.00
163	Support Contingency Analysis Studies	Activities related to providing engineering and other technical support to the processes used for contingency analysis studies in the control room and in the engineering support areas.	879.25
164	Support Application Tools for System Operations	Activities related to providing engineering and other technical support to the EMMS (Energy Market Management System) applications tools other than contingency analysis, including, but not limited to, AGC (Automatic Generation Control), LFC (Load Frequency Control), load forecasting, weather data, etc.	815.75
165	Employee Orientation	Activities coordinated by the HR department related to initial employee introductory training about ERCOT procedures as well as additional training in respect to new ERCOT initiatives, programs, or internal controls.	773.25
166	Regional Entity - Accounting & Finance	Activities related to Accounting and Finance.	772.50
167	Production Database Management - Market Operations	DBA Activities for projects related to MO CART (Continuous Analysis and Review Team) and log them in Project Server.	733.50
168	MET Center Building Operations	Activities related to managing and maintaining the MET Center facilities.	724.50
169	Power Operations System Maintenance	Activities related to supporting Power Operations system and includes software support.	705.00
170	Market Rules Analysis & Comment	Activities involving assisting ERCOT staff (primarily Market Rules) in connection with the drafting, reviewing, impact analysis, revising or interpretation of Protocols or PRRs (Protocol Revision Request).	701.75
171	Human Resources Legal Work	Legal activities related to Human Resources.	689.75

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
172	Database Admin. Support - Corporate Operations	DBA (database administration) activities for projects related to CO CART (Corp Ops Continuous Analysis and Review Team) and log them in Project Server.	678.00
173	Regional Entity - Training & Education	Activities related to Training and Education.	672.00
174	Nodal INFR Market Participant Identity Mgmt	Nodal Infrastructure Market Participant Identity Mgmt	658.50
175	Develop New Functionality	Activities involving keeping abreast with Technology and continuously work on improving the functionality of existing systems. This includes developing new analysis tools to evaluate power system.	653.00
176	Regional Entity - Reliability Assessment & Performance Analysis	Activities related to Reliability Assessment & Performance Analysis.	647.25
177	Develop New Planning Models	Activities related to the development of operations planning models as used in the network model and in power system analysis processes. This involves developing new software planning models to evaluate power system.	596.35
178	Media Relations	Time spent communicating, meeting or otherwise working with the media.	592.75
179	Black Start	Activities related to administering and testing the Black Start program.	584.00
180	Nodal Market Participant Readiness	Nodal Market Participant Readiness (MER) (Development & Implementation)	540.00
181	Strategic Management - Cyber Security	Activities related to shaping, evaluating and correcting the strategic course of the department. Includes activities that affect the strategy of the department. Examples include meetings to listen or participate in discussions related to key projects.	489.50
182	Review/Implement Unit Capabilities	Activities related to maintaining up-to-date generating resource test results and data representing the operations capabilities of those resources in the ERCOT databases.	482.00
183	Database Monitoring	Activities related to monitoring and managing the databases used by the advance applications of the power system security analysis processes.	480.50
184	Regional Planning & Reviews	Activities related to regional planning and reviews, such as the annual 5-yr plan.	475.25
185	Strategic Management - System Operations	Activities related to shaping, evaluating and correcting the strategic course of the department. Examples include meetings to listen or participate in discussions related to key projects.	466.00
186	Price Correction Analysis & Reporting	Activities related to price correction analysis and reporting.	461.50
187	Regional Entity - Reliability Readiness Audit & Improvement	Activities related to Reliability Readiness Audit and Improvement.	457.25
188	Market Monitoring Support	Level 3 production support PUCT (Public Utilities Commission of Texas) and Potomac Economics in use of Market Oversight Monitoring Systems.	455.40
189	Database Software Change & Security Mgmt	Installing Oracle Binaries and applying Oracle Security patches. Running database maintenance scripts etc.	453.50
190	Process Maintenance	Activities related to processing interconnection or change requests and maintaining business processes & systems.	446.50
191	Administer Monthly DC Accounting/Reporting	Activities related to monthly reporting of DC (Direct Current) Tie Accounting and inadvertent energy reporting.	434.50
192	Test/Qualify Ancillary Service Providers	Activities related to testing and qualifying (or not qualifying) MP (market participant) as Ancillary Service providers in accordance with protocols requirements.	424.00
193	Performance Tuning-Development/Test/Production	Monitoring databases for performance tuning troubleshooting performance tuning issues and resolving them. Working with Oracle in case the issue cannot be resolved.	419.00
194	Prepare Power Flow Study Cases	Activities related to keeping the power flow cases updated for changes in the network model, seasonal cases, and special study cases.	400.00
195	Financial Transfer-Settlement Invoicing	Activities related to financial transfers and settlement invoicing.	392.00
196	Production Database Monitoring	Monitoring Database for performance and diagnosis. Proactive monitoring of databases.	382.50
197	EA - Application Architecture	Activities related to software and application architecture design/review/consulting.	369.00
198	EA - Information Architecture	Activities related to user interface/human interaction architecture design/review/consulting.	362.00
199	Credit - Procurement/Vendors	Activities related to Procurement and/or external vendors.	347.00
200	Application Implementation Planning	Activities related to the development and testing of new software analysis applications and the writing, training, and executing the use of the application into operations activities. This includes input on implementing new applications in systems and planning activities surrounding the coordination, migration, and/or release of code to a pTest, iTest, or Prod environment.	346.50
201	Data Refresh & Recovery Services	Activities related to the planning, implementation, and support of data refresh and recovery of Zonal Projects and applications. This includes database restores and refreshes of lower environments using snapshots from production.	339.50
202	Market Data Extraction	Activities related to querying Market Data.	330.00
203	Market Participant Default	Activities related to a Market Participant Default; analysis of ESIIDs (Electric Service Identifier) involved; analysis and reporting of daily progress to transition customers to POLR (Provider of Last Resort).	309.75



# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B  
PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
204	Strategic Management - Market Operations	Activities related to shaping, evaluating and correcting the strategic course of the department. Examples include meetings to listen or participate in discussions related to key projects.	308.00
205	Database Space Management	Activities related to the planning, implementation, and support of database space management of Zonal Projects and applications. Proactively managing tablespaces that have space issues. Performing storage analysis for database growth.	292.50
206	Enhance Market Operations Systems	Activities related to review and evaluation of market systems operations, with the intent of developing or implementing market system improvements.	292.00
207	EA - System Architecture	Activities related to hardware and infrastructure architecture design/review/consulting.	261.00
208	Database Admin. Support - Market Operations	DBA (database administration) activities for projects related to MO CART (Market Ops Continuous Analysis and Review Team) and log them in Project Server.	257.50
209	EMMS Application & Vendor Research	Activities related to keeping current with the industry and available vendor products for the EMMS (Energy Market Management System) and operations of the power system. This includes Level 3 production support for System and Market Operations, Level 3 production support PUC (Public Utilities Commission) and Potomac Economics in use of Market Oversight Monitoring Systems, PRR (Protocol Revision Request) Analysis; vendor product releases, vendor product development activities, vendor demo and presentations.	256.00
210	Regional Entity - Legal & Regulatory	Activities related to Legal & Regulatory.	245.95
211	Operator Certification	Activities associated with facilitating and administering the ERCOT Operator Certification Program which includes proctoring tests, grading tests, preparing tests, and updating training material.	240.00
212	Switch Notification & Cancellation	Any activity dealing with Customer Notification, creation of support used in verifying invoices, tracking cancellations, daily file verification process, manual processing a cancellation, and communicating daily results of Seibel cancellations.	195.25
213	Support-24x7 Level 1 Application Support	This is the primary function of Console Operations. It provides 24x7 system monitoring and level 1 support for IT.	192.50
214	Military Leave	Time off from work due to Military leave, including fulfilling Military Reserve responsibilities.	192.00
215	RMR & MRA Analysis	Activities related to performing studies and providing support to determine whether a unit is needed as RMR (Reliability Must-Run), development of RMR contracts, and/or the development of an exit strategies for an RMR units.	183.00
216	Surveillance Systems	All activities related to the design, equipment research and selection, planning, installation and maintenance of the closed circuit television (CCTV) system.	180.75
217	ERO Regional Entity	Activities associated with the formation of the NERC (North American Electrical Reliability Council) Electric Reliability Organization and ERCOT Regional Entity. Includes attending meetings, participating on conference calls, preparing documents and filings, etc.	180.25
218	Real-Time Network Analysis Support	Activities related to the technical support of real-time contingency analysis, VSA (Voltage Support Analysis), and State Estimator processes on an ongoing basis; providing engineering support as needed to control room personnel; and interfacing with MP (Market Participant) operations personnel and their support personnel.	164.00
219	MS Project Server Support & Admin	Activities related to administering and maintaining MS Project Server.	163.50
220	Energy Integration Study	Activities related to performing studies and providing support related to potential synchronous integration of EGSI-TX (Entergy Gulf States, Inc.) into ERCOT System.	143.50
221	Data Application Support to Entities	Researching solutions and provide data from market or operations databases to Market Participants and ERCOT stakeholders as per protocols.	139.00
222	Resource Adequacy Analysis	Activities related to gathering data, performing studies and providing support to determining LOLPs (Loss of Load Probability), corresponding reserve margins, etc. It may be utilized to determine adequate ERCOT staff resourcing for capital projects delivery.	127.50
223	Production Database Space Mgmt	Taking care of tablespaces that have space issues. Performing storage analysis for database growth.	127.00
224	Human Resource Compliance	Activities related to compliance tasks in Human Resources.	122.00
225	Regional Entity - Human Resources	Activities related to Human Resources.	110.00
226	Market Operations System Maintenance	Activities related to supporting other departments within Market Operations and includes software to support market operations.	106.75
227	Regional Entity - Situational Awareness & Infrastructure Security	Activities related to Situational Awareness and Infrastructure Security.	104.00
228	Dist Loss Factor Review & Approval	Annual review and approval of TDSP (Transmission & Distrib Service Provider) submitted distribution loss factor methodology.	100.50

# Electric Reliability Council of Texas (ERCOT)

Exhibit BK-4

Attachment B

PUC Project No. 34889

## Time Tracking Activities

Line	Activity	Activity Definition	2007 Hours
229	Consulting Support to Business & Information Technology	Activities involving providing guidance and input to other business units regarding information security, such as activities involving supporting customers in deciding how to use the EMMS (Energy Market Management System) tools to fulfill their responsibilities. It includes research and analysis to support other IT or business groups within ERCOT and also includes answering "general" questions about departmental applications and operations.	87.75
230	Tier 2-4 SAN Management	Activities related to the planning, implementation, and support of non-Tier1 data storage requirements of Zonal Projects and applications.	86.00
231	Metric Development	Activities related to developing measurement processes.	76.00
232	MO Provide Training -ERCOT Market	Activities involving providing training to market participants, this includes developing training material.	70.00
233	Public Information Requests	Request for information that is deemed public and usually is in writing with a deadline.	45.75
234	Nodal MMS Project Changes	Nodal Market Management System Project Changes	42.00
235	Regional Entity - Executive	Activities related to Executive.	41.00
236	Operations Audit	Activities associated with the annual ERCOT Operations Audit. The audit reviews how well ERCOT Operators follow written Operations Procedures, whether these procedures are applied consistently, and whether there is a need to clarify confusing or vague procedures.	40.50
237	Process Settlement Manual Imports	Activities related to the process of manually inputting data to the settlement system.	39.00
238	Confirm Settlement & Invoice Calculations	Activities related to validation and verification of settlement and invoice calculations.	35.00
239	Nodal INFR Enterprise Visibility	Nodal Infrastructure Enterprise Visibility	24.50
240	Configure Settlement & Business Applications	Activities related to configuring settlement and business programs and applications.	21.00
241	System Support (MOTE, MOMs)	Activities related to the support of the subset of the network model and other databases that provide for access by MPs (Market Participants) to network model through the MOT (Market Operations Testing Environment) system of by PUCT (Public Utilities Commission of Texas) through the MOMs (Market Oversight Monitoring) system.	20.00
242	Tier 1 SAN Management	Activities related to the planning, implementation, and support of Tier 1 data services for Zonal Projects and applications.	17.50
243	Market Participant Survey - ODC	Survey conducted and administered by Opinion Dynamics Corporation of Market Participants and ERCOT stakeholders. The survey is performed every two years.	11.25
244	Production Database Management - Corporate Operations	DBA Activities for projects related to CO CART (Continuous Analysis and Review Team) and log them in Project Server.	10.00
245	Nodal EMS Project Changes	Nodal Energy Mgmt Systems Project Changes	7.00
246	Regional Entity - Members Forum	Activities related to Members Forum.	7.00
247	MO Receive Training -Corporate Process	Activities involving receiving training on corporate processes.	5.00
248	Regional Entity - Information Technology	Activities related to Information Technology.	2.50
249	MO Receive Training -ERCOT Market	Activities involving receiving training on market functionality and processes.	2.00
250	Provide Market Forecasts	Activities related to performing studies and providing support for forecasting the SCUC (Security Constrained Unit Commitment) /SCED (Security Constrained Economic Dispatch) of the ERCOT System. This does not include activities related to transmission project analysis, RMR (Reliability Must-Run) analysis, etc.	2.00
251	Dynamic Ratings Management/Support	Activities related to the specific database and processes for dynamic power system ratings.	1.00
252	Helpdesk Support	Activities involving call center support for end users. Activities related to troubleshooting and closing help desk tickets specific to the Microsoft Project Server and Professional.	1.00

**DIRECT TESTIMONY OF**

**H. B. “TRIP” DOGETT**

**SENIOR VICE PRESIDENT AND CHIEF OPERATING OFFICER**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT’S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF H. B. “TRIP” DOGGETT**

2   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3   A.     My name is H. B. “Trip” Doggett. My business address is 7620 Metro Center  
4           Drive, Austin, Texas 78744.

5  
6   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

7   A.     I am employed by the Electric Reliability Council of Texas, Inc. (“ERCOT”) as  
8           Senior Vice-President and Chief Operating Officer (“COO”).

9  
10   **Q.    PLEASE DESCRIBE YOUR RESPONSIBILITIES AS CHIEF**  
11           **OPERATING OFFICER.**

12   A.    The ERCOT COO is responsible for providing leadership to achieve the operating  
13           objectives outlined in Senate Bill 7 for ERCOT. The COO directs the Market  
14           Operations, System Operations, and System Planning divisions, and carries out  
15           the policies and directions of the President and Chief Executive Officer.

16  
17   **Q.    PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
18           **QUALIFICATIONS.**

19   A.    I am a Licensed Professional Engineer and received my Bachelor of Science  
20           degree in Electrical Engineering in 1980 from the University of North Carolina at  
21           Charlotte. Since completing my education, I have accumulated 28 years of  
22           experience in the electric power industry. I worked for Duke Power for over  
23           fifteen years in a number of engineering and management positions. I was a  
24           manager of regional engineering for Duke Power when I joined Duke Engineering  
25           & Services in 1995. At Duke Engineering & Services, I led the sub-station  
26           engineering department, provided project management services to, among others,  
27           the California Independent System Operator (“ISO”), and managed the  
28           company’s marketing and business development activities.

29           I first began to work with ERCOT during my time with Duke Engineering &  
30           Services. As a consultant to Austin Energy, I represented that utility during the  
31           early phases of market restructuring in Texas in numerous market design working

1 groups. In 2000, I became an independent consultant and worked with ERCOT in  
2 that capacity until being named COO. As a project manager for ERCOT, I was  
3 responsible for implementing major design changes for the zonal market, and also  
4 was involved in the review of vendor documents, design documents, and draft  
5 protocols. I served as Independent Facilitator of the Texas Nodal Team, the  
6 stakeholder group that developed the Nodal Protocols, and served as the Project  
7 Manager of the Market Engagement & Readiness project within the Texas Nodal  
8 Market Implementation Program. I was selected to serve as ERCOT's Chief  
9 Operating Officer in April 2008, and confirmed by the ERCOT Board of  
10 Directors at its May 2008 meeting. I assumed my duties as COO on June 1, 2008.

11  
12 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
13 **COMMISSION OF TEXAS?**

14 A. Yes, I submitted direct testimony in 2007 in Docket No. 32686 (ERCOT's request  
15 for approval of the Nodal Program surcharge).

16  
17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. I was not yet ERCOT's COO when ERCOT developed its application for  
19 approval of a revised System Administration Fee. At the time of my selection as  
20 COO, I was providing consulting and management services for the Nodal Market  
21 Implementation Program's Market Engagement and Readiness project. My start  
22 date as COO is almost contemporaneous with the filing of ERCOT's fee  
23 application at the Commission. While I was not involved in the development of  
24 much that is before the Commission in this proceeding, I will be actively involved  
25 in managing ERCOT's operations during the 2009 budget year and am quickly  
26 coming up to speed on the details of the budget and staffing issues facing the  
27 ERCOT divisions for which I am responsible. Moreover, as COO, I am directly  
28 accountable for ERCOT's delivery of its core objectives as an organization. In  
29 that regard, I may be called upon during the course of this proceeding to address  
30 issues of concern to the Commission and intervenor parties. Although I am not in  
31 a position at this time to address the substantive details of ERCOT's fee

1 application, I expect to be prepared to address such questions later in this  
2 proceeding.

3

4 **Q. WERE YOU INVOLVED IN FORMULATING THE 2009 BUDGET**  
5 **APPROVED BY ERCOT'S BOARD OF DIRECTORS?**

6 A. No. I was not involved in the budget development process for the 2009 budget.  
7 As such, I did not participate in the "deep dive" analysis described in the  
8 testimony of other ERCOT witnesses to establish employee headcounts for the  
9 organization. As part of my role as COO, I am becoming familiar with the details  
10 of ERCOT's budget and the documentation supporting it, and expect to be  
11 involved in the formulation and review of the ERCOT Budget in the future.

12

13 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

14 A. Yes, it does.

**DIRECT TESTIMONY OF**

**RAYMOND A. GIULIANI, JR.**

**VICE-PRESIDENT AND CHIEF OF MARKET OPERATIONS**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                   **DIRECT TESTIMONY OF RAYMOND A. GIULIANI, JR.**

2

3                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

4   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

5   A.     My name is Raymond A. Giuliani, Jr. My business address is 7620 Metro Center  
6         Drive, Austin, Texas 78744.

7

8   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

9   A.     I am employed by the Electric Reliability Council of Texas, Inc. (“ERCOT”) as  
10        Vice-President and Chief of Market Operations.

11

12   **Q.     PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
13       **QUALIFICATIONS.**

14   A.     I hold a Bachelor of Science degree in Industrial and Systems Engineering from  
15         Georgia Tech, and a Master of Business Administration, focused on Finance and  
16         Accounting, from Stanford University. I am a Certified Public Accountant  
17         (“CPA”), registered in the State of Georgia. I began my career with KPMG Peat  
18         Marwick, a worldwide provider of accounting and auditing services, as a CPA in  
19         its Atlanta, Georgia office in 1975. In 1978, I joined Energy Management  
20         Associates, Inc., a provider of software applications and consulting services to  
21         150 electric and gas utilities worldwide. In my fourteen (14) years at Energy  
22         Management Services, I was responsible for the creation and management of the  
23         company’s Natural Gas Industry practice, which grew to be a leader in its industry  
24         niche. I held various positions with the company, including Vice President,  
25         Natural Gas Practice, and Chief Financial Officer. Energy Management Services  
26         was purchased by Electronic Data Systems (“EDS”) in 1992. After serving at  
27         EDS as Vice President of its Utility Services division, I held executive positions  
28         with Exchange Development Company, L.L.C. and IBM Global Services, where I  
29         worked on projects relating to development of market operations for the emerging  
30         transition to competitive utility markets. In 2001, I joined GridSouth, a project of



1 the electric utility divisions of Duke Energy, Progress Energy and SCANA  
2 Corporation, to create a Regional Transmission Organization. At GridSouth, I  
3 served as a Vice-President responsible for managing business strategy, financial  
4 affairs, and information technology services. I left GridSouth to join ERCOT in  
5 2002 as Vice-President and Chief of Market Operations.

6  
7 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
8 **COMMISSION OF TEXAS?**

9 A. Yes, I have testified in Docket No. 31824 (ERCOT's 2005-06 System  
10 Administration Fee case) and in Docket No. 32686 (ERCOT's request for  
11 approval of the Nodal Program surcharge).

12  
13 **Q. PLEASE DESCRIBE YOUR JOB RESPONSIBILITIES AS VICE-**  
14 **PRESIDENT AND CHIEF OF MARKET OPERATIONS AT ERCOT.**

15 A. My primary job responsibility is to ensure reliable and effective delivery of key  
16 services to wholesale buyers and wholesale sellers in the ERCOT electric market.  
17 Such services are guided by the principles set forth in PURA § 39.151(a), and  
18 include activities to:

- 19 • Assure accurate and timely data collection, accounting and reporting for  
20 daily wholesale market settlement transactions and transactions related to  
21 retail electric provider of record;
- 22 • Administer the enrollment/cancellation process for switching in the Texas  
23 Choice Market;
- 24 • Assure accurate and timely daily billing for ERCOT services related to  
25 reliability and ancillary activities, congestion and balancing energy  
26 services;
- 27 • Set priorities and provide direction for the development and use of the  
28 information technology systems that facilitate market operation tasks;
- 29 • Perform testing and ensure quality of internal system changes and  
30 enhancements, as well as administer the Market Flight Testing for retail  
31 transactions processing between ERCOT and Market Participants;

- 1 • Assure projects are completed on time, within budget and within quality  
2 specifications;
- 3 • Deliver efficient and effective operations for Transmission Congestion  
4 Right (“TCR”) settlements (and in the Nodal market, Congestion Revenue  
5 Right (“CRR”) settlements), market rules administration, Market  
6 Participant education, Market Participant meeting support, account  
7 management and registration and certification of Qualified Scheduling  
8 Entities (“QSEs”) and Competitive Retailers (“CRs”);
- 9 • Provide timely and accurate market notifications regarding changes in  
10 processes, procedures, ERCOT Protocols and other issues that impact  
11 Market Participants;
- 12 • Maintain the ERCOT Protocols, Operating Guides, and other policies and  
13 procedures and manage the change process for these documents;
- 14 • Enable timely and fair dispute resolution between the Market Participants  
15 and ERCOT regarding settlement statements and billings; and,
- 16 • Evaluate the ERCOT role in the Texas electricity market.

17  
18 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 A. My testimony supports ERCOT’s request for a revised System Administration  
20 Fee (“SAF”). My testimony focuses on the funding requirements of the Market  
21 Operations division, the organization within ERCOT for which I am responsible.  
22 I provide an overview of the Market Operations organization and of the changing  
23 demands facing Market Operations as ERCOT begins working within the Nodal  
24 market framework. In addition, I discuss the results of the “deep dive” analysis  
25 supporting the Market Operations organization’s portion of the 2009 Budget  
26 approved by the ERCOT Board of Directors. I also address the justification for  
27 the expenses in the Market Operations budget not associated directly with its  
28 personnel headcount.

1 **Q. AS VICE PRESIDENT AND CHIEF OF MARKET OPERATIONS ARE**  
2 **YOU QUALIFIED TO DISCUSS THE ACTIVITIES AND BUDGET**  
3 **REQUESTS OF THE ENTIRE MARKET OPERATIONS DIVISION?**

4 A. Yes. I am the ERCOT officer responsible for the Market Operations division, and  
5 I coordinated very closely with the managers and directors within Market  
6 Operations in the preparation of their 2009 budget requests. This included  
7 detailed analysis of the tasks expected to be performed by the Division in 2009  
8 and beyond as ERCOT begins operation of the Nodal market.

9  
10 **II. OVERVIEW OF THE MARKET OPERATIONS DIVISION**  
11

12 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE**  
13 **MARKET OPERATIONS DIVISION OF ERCOT.**

14 A. All Market Participants rely on ERCOT's timely and accurate aggregation and  
15 processing of data in support of the over \$30 billion electricity market in the  
16 ERCOT Region. The Market Operations Division ensures that timeliness and  
17 accuracy in addition to providing stakeholder support and services required to  
18 enable the commercial activities of both the bilateral market and the markets  
19 operated by ERCOT. The Market Operations division is currently responsible for  
20 the following major functions:

- 21 (1) Registration and Certification of new CRs, Opt-In Entities and  
22 Transmission and Distribution Service Provider ("TDSP") Entities;
- 23 (2) Registration and Certification of new QSEs, new sub-QSEs, and all  
24 other Market Participants;
- 25 (3) Central registration and management of all Electric Service Industry  
26 Identifiers ("ESI IDs") in the Texas retail market, the relationships of  
27 ESI IDs to each CR, and the electronic transaction processing of all  
28 meter reads, switch requests and move-in/move-out requests;
- 29 (4) Management of end use customer switch notification processes and  
30 tracking of inadvertent gain metrics by CR;

- 1           (5)       Administration of the Texas retail enrollment and switch notification/  
2                   cancellation program;
- 3           (6)       Load profiling and load research by customer type, location and  
4                   weather zone, in order to take monthly consumption associated with  
5                   each non-interval metered ESI ID, allocate it to each fifteen minute  
6                   interval and calculate for each LSE (and ultimately each QSE) its  
7                   share of Ancillary Services and Balancing Energy Service for each  
8                   fifteen minute period;
- 9           (7)       Aggregation of millions of interval and monthly meter reads and  
10                  correctly associating them to each LSE and QSE and the calculation  
11                  and application of transmission and distribution losses as appropriate;
- 12          (8)       Testing, flight coordination and verification of ERCOT commercial  
13                  systems and each LSE's ability to comply with ERCOT requirements  
14                  and electronically exchange data (through Texas SET) with all parties  
15                  participating in the Texas retail market;
- 16          (9)       Metering and meter-read management supporting the ERCOT Polled  
17                  Settlement ("EPS") meters used in measuring generation resources  
18                  (above 10 MW, metered Non-Opt-In-Entities' ("NOIEs")) and bi-  
19                  directional measurement);
- 20          (10)       Congestion market operations related to conducting annual and  
21                  monthly Transmission Congestion Rights (TCR) auctions and  
22                  including collecting and accounting for auction revenues and payments  
23                  to TCR holders;
- 24          (11)       Management of the Renewable Energy Credit Program;
- 25          (12)       Calculation of settlement statements for each QSE and sub-QSE  
26                  (ERCOT has over 120 QSEs and 80 Sub-QSEs) for each Operating  
27                  Day for each settlement charge type (ERCOT has fifty charge types)  
28                  for each of the ninety-six intervals per day for each settlement run  
29                  (ERCOT has between three and ten settlement runs per Operating  
30                  Day) for each settlement cycle. The ERCOT Protocols call for no

- 1 fewer than three settlement cycles – Initial, Final and True Up  
2 throughout the year. Additional Resettlements also may occur;
- 3 (13) Calculation of QSE billing statements for each settlement statement  
4 produced (as described in the previous paragraph);
- 5 (14) Support of daily calculation of Estimated Aggregated Liability  
6 (“EAL”) determination for collateral monitoring for each QSE;
- 7 (15) Development, production, posting and market support of daily reports  
8 and extracts providing each Market Participant with access to all the  
9 daily operating data housed at ERCOT relating to the Market  
10 Participant’s commercial relationship with ERCOT;
- 11 (16) Management, evaluation and resolution of settlement disputes filed by  
12 QSEs and analytical support of Alternative Disputes Resolution efforts  
13 and disputed settlement issues escalated to the Commission;
- 14 (17) Facilitation of retail data extract variances (“DEVs”) filed, research  
15 and resolution regarding those directed to ERCOT, and reporting on  
16 aggregate DEV resolution and Market Participant performance versus  
17 established market standards;
- 18 (18) Preparation and analysis of Commission-mandated Retail Market  
19 Metrics, reporting ERCOT’s performance in retail transaction  
20 processing and selected performance measures of Market Participants;
- 21 (19) Change management of market operations business processes and  
22 testing of IT systems resulting from: (i) internal business process  
23 improvements, (ii) ERCOT Board-approved Protocol revisions, (iii)  
24 market guide changes, or (iv) Commission Rule changes;
- 25 (20) Education programs for Market Participants and ERCOT staff  
26 regarding the Protocols and various guides, business processes,  
27 services, systems, transaction timelines, roles and responsibilities,  
28 reports, available data and tools, and governance/change process in the  
29 ERCOT Region;

- 1 (21) Prompt service responses to daily inquiries from staff of Market  
2 Participants and other stakeholders regarding any issue related to  
3 ERCOT market-related issues;
- 4 (22) Timely and accurate market communications and notices (5-10+ per  
5 business day);
- 6 (23) Management of the ERCOT Protocols and guides and the Protocols  
7 and guides change process within the ERCOT organization, among  
8 Market Participants and through the governance process;
- 9 (24) Support and coordination of the hundreds of meetings that are part of  
10 the ERCOT Market Participant committee process, to ensure  
11 awareness, access, transparency and consistency of proceedings via  
12 development and posting of meeting notices, agendas, minutes and  
13 votes or meeting notes;
- 14 (25) Responding to hundreds of *ad hoc* and standing committee requests,  
15 across a wide range of topics, for ERCOT staff to provide analysis,  
16 assist with presentation preparation, and make presentations at  
17 committee meetings. These requests can impact any operating function  
18 at ERCOT, but by far the largest share of resource demand falls on  
19 Market Operations and System Operations staff; and
- 20 (26) Support, analysis, participation and, in some cases, project leadership  
21 for various internal and external operating initiatives including:  
22 internal audits, external SAS 70 audits, project coordination, enterprise  
23 risk management, fee case preparation, annual budget and position  
24 justification, business process improvement, internal control  
25 management program, salary survey, time tracking and work force  
26 analysis.

27

28 **Q. PLEASE DESCRIBE THE MARKET OPERATIONS DIVISION'S**  
29 **RECENT MAJOR ACCOMPLISHMENTS.**

- 30 A. The Texas retail electricity market continues to set the standard nationally for  
31 success in customer choice, and that increases the number of transactions handled

1 by Market Operations staff. As of year end 2007, 41% of residential customers  
2 were served by a retail electric provider other than the incumbent utility,  
3 compared with 36 percent in 2006. Competitive service to commercial customers  
4 was at 44%, and industrial at 71%. In 2007, ERCOT processed 5.1 million retail  
5 transactions – including retail switches, move-ins and move-outs and other  
6 transactions – at nearly 100% within protocol. In 2007, Market Operations  
7 project teams developed an upgraded version of Texas Standard Electronic  
8 Transaction (“SET 3.0”), the electronic transaction system that supports the retail  
9 market. The project teams also completed an automated solution for mass  
10 transition of ESI-IDs, the creation of new data marts in the operational data store,  
11 and upgrades to load profiling and metering software application systems. All  
12 projects were implemented without significant market disruption.

13 The division’s testing staff administered four market-wide test flights required for  
14 recertification on Texas SET 3.0. ERCOT also tested more than 5,000  
15 compilation and computing code changes and resolved over 900 defects before  
16 releasing new systems into production.

17 Market Operations staff continues their outstanding work in managing the data  
18 and the settlements and billings processes that support the \$30 billion ERCOT  
19 market. Staff processed more than 128,000 wholesale statements and invoices  
20 with 100% accuracy and 99.3% timeliness. In addition to managing the  
21 settlements and billings processes, staff conducted TCR auctions totaling \$66.7  
22 million in 2007. In the Nodal market, TCRs will be replaced by CRRs. A CRR is  
23 a financial instrument that enables market participants to hedge against the risk of  
24 incurring congestion charges between pricing nodes. CRRs can be auctioned by  
25 ERCOT monthly and annually, and auction revenues will be returned to loads.  
26 Market Operations staff will manage the settlement and billing related to CRRs  
27 after the Nodal market goes live. During the transition period to the Nodal  
28 market, Market Operations personnel will be required to handle settlement and  
29 billings for both Zonal and Nodal market transactions.

30 Market Participants and ERCOT staff continue the ongoing effort of working  
31 together to refine the wholesale and retail electric markets. Market Operations

1 staff play a critical role in the stakeholder process by providing meeting  
2 management and technical support for Market Participant activities. In 2007, the  
3 Market Operations staff managed activities for 168 market rule changes,  
4 including 49 Protocol Revision Requests (“PRRs”), 56 nodal PRRs (“NPRRs”),  
5 and more than 63 guide revisions, plus more than 576 accompanying  
6 recommendation reports. ERCOT staff also provided business support for 348  
7 market participant entities involved in day-to-day ERCOT operations, drafted and  
8 distributed 821 market notices across a diverse range of technical topics, and  
9 delivered 1,748 days of structured education sessions for all stakeholders, up from  
10 1,000 in 2006.

11  
12 **Q. HOW DO YOU EXPECT THE RESPONSIBILITIES OF THE MARKET**  
13 **OPERATIONS DIVISION TO CHANGE WITH THE OPENING OF THE**  
14 **NODAL MARKET IN THE ERCOT REGION?**

15 A. The Nodal market permits electric generation and pricing decisions to be made  
16 based on more granular information (i.e., at a generating unit level instead of at a  
17 generator portfolio level). The increased granularity also increases the raw  
18 amount of data that the Market Operations division must process and validate to  
19 support the market. We estimate that the data volumes handled by settlement and  
20 billing staff will be over ten times greater than the volume generated in the zonal  
21 market, and the number of invoices ERCOT must generate increases by  
22 approximately nine times over existing levels. Moreover, the new Day Ahead  
23 Market includes very tight timelines that squeeze the time available for ERCOT to  
24 generate, validate, and post settlements and billing. In addition, the  
25 implementation of the sophisticated software interfaces associated with the Nodal  
26 market will require significant support for Market Participants as they learn to  
27 utilize the new and more complex tools. The new activities the Market  
28 Operations division will support as part of the Nodal market include:

- 29 (1) Unit-specific pricing for generators in place of portfolio pricing;  
30 (2) Nodal pricing for resources replaces zonal pricing for resources;



- 1 (3) Replacement of the bid stack engine with a new market clearing engine  
2 using linear programming;
- 3 (4) Five minute dispatch requires five minute calculation of prices and fifteen  
4 minute settlement intervals. This replaces the current process of fifteen  
5 minute dispatch, fifteen minute calculation of prices, and fifteen minute  
6 settlement intervals;
- 7 (5) Day-Ahead Energy market;
- 8 (6) Day-Ahead and Hour Ahead Reliability Unit Commitment markets;
- 9 (7) CRR markets (options and obligations) replace current TCR market  
10 (options only);
- 11 (8) Verifiable Cost process;
- 12 (9) Network Modeling customer support requirements for new network  
13 models used in Nodal market;
- 14 (10) Administration of revised QSE and Generator registration and  
15 qualification requirements, as well as new collateral requirements and  
16 credit monitoring duties; and
- 17 (11) Substantially different Market Participant training requirements associated  
18 with participation in the Nodal market.

19 This list may not capture every aspect of the Nodal market transition that will  
20 affect the Market Operations staff, but it provides a sense of the enormity of the  
21 changes ahead.

22 In addition to the new ongoing activities associated with the Nodal market, there  
23 will be transitional activities required in 2009 that affect the Market Operations  
24 budget. First, in order to process transactions that occur as the Nodal market is  
25 going live, the division must perform settlement and billing for both the Zonal and  
26 Nodal markets for at least six months into 2009. Second, I expect that it will be  
27 necessary for Market Operations personnel (as well as staff from other ERCOT  
28 divisions) to undertake projects to fix software problems or revise process  
29 shortcomings that emerge when the Nodal market actually begins operation.  
30 Everyone at ERCOT is hopeful that such projects will be minimal. When a

1 change of such magnitude and complexity goes on line, however, managerial  
2 prudence dictates planning for the correction of such problems.

3  
4 **Q. DO YOU EXPECT THAT 2009 – THE FIRST YEAR OF NODAL**  
5 **MARKET OPERATIONS – WILL PROVIDE A RELIABLE GUIDE FOR**  
6 **THE MARKET OPERATIONS DIVISION’S BUDGET NEEDS IN THE**  
7 **YEARS AHEAD?**

8 A. Not necessarily. Based on my experience with other market redesign projects,  
9 and my observations from the experience of other Independent System Operators  
10 (“ISOs”), the division’s experience in 2009 may not provide a realistic forecast of  
11 stable divisional activities in the future. During the first year of operations with a  
12 new market design, Market Participants engage in a process of learning the  
13 nuances of the market. Notably, in the case of Nodal implementation, the changes  
14 include two entirely new markets (Day-Ahead and CRR). No matter how well-  
15 designed the market may be, processes will need to change and disputes will have  
16 to be resolved as the Market Participants and ERCOT put the new design into  
17 practice. I would expect the first year of operations in the Nodal market to  
18 include a higher than normal number of disputes, as well as proposed changes in  
19 business processes, systems, and communications protocols. As the market  
20 adjusts to Nodal operations, the frequency of disputes and change requests will  
21 likely diminish, but it is not possible to estimate future volumes (and their precise  
22 budgetary impact on the Market Operations division) until the “dust settles” and  
23 the market has a meaningful amount of experience with Nodal operations.

24  
25 **Q. ARE THERE OTHER DEVELOPMENTS IN THE ERCOT MARKET**  
26 **THAT COULD POTENTIALLY AFFECT THE RESPONSIBILITIES OF**  
27 **THE MARKET OPERATIONS DIVISION?**

28 A. Yes. There are always developments expected in the ERCOT market, but the  
29 Nodal transition is the only initiative accounted for in our 2009 budget. The  
30 Market Operations division will have significant responsibility regarding  
31 advanced metering initiatives mandated through legislation with implementation

1 specifics under consideration by the Commission and by Market Participants.  
2 Since such specifics are not yet defined, we have not included any material  
3 advanced metering efforts and associated costs in our 2009 budget. When such  
4 specifics are defined as they pertain to ERCOT, we will need to address the cost  
5 implications for the 2009 Budget.  
6

7 **Q. ARE THERE OTHER FACTORS THAT INCREASE THE MARKET**  
8 **OPERATIONS DIVISION'S STAFFING NEEDS?**

9 A. Yes. There are obligations that are not unique to Market Operations that have  
10 budget and staff utilization impacts across the ERCOT organization. These  
11 include employee resources needed to comply with various oversight  
12 requirements (*e.g.*, SAS 70 reporting and information required by NERC, FERC,  
13 and this Commission). In addition, Market Operations personnel frequently  
14 devote resources to tasks associated with ERCOT's Enterprise Risk Management  
15 ("ERM"), Internal Controls Management Program ("ICMP"), and internal audits.  
16

17 **Q. ARE THERE MARKET DEVELOPMENTS OR OTHER FACTORS THAT**  
18 **DECREASE THE MARKET OPERATIONS DIVISION'S STAFFING**  
19 **NEEDS?**

20 A. Yes. The Market Operations division's 2009 budget includes a headcount  
21 reduction of fourteen (14) full time equivalent ("FTE") staff positions. For the  
22 reasons discussed above, the division is requesting eight (8) new positions, but the  
23 offsetting reductions result in a net reduction of six (6) FTEs requested by Market  
24 Operations. The overall staff reductions are possible primarily because of two  
25 developments.

26 First, the completion of the transition to the Nodal market will permit Market  
27 Operations to prudently reduce staffing levels in some departments. The Market  
28 Operations Division Project Office ("DPO") reduces its 2009 headcount by seven  
29 (7) FTEs, based on a combination of the reduction in Zonal project work after  
30 Nodal goes live, along with organizational realignments within the department  
31 implemented by division management. Similarly, the Market Operations Testing

1 department anticipates a reduction in testing in the months after the Nodal market  
2 goes live. Although certain factors could also increase testing requirements (*e.g.*,  
3 NPRRs requiring revised nodal systems that must be tested), the department  
4 includes in its budget a reduction of three (3) FTEs for 2009.

5 Second, completion of the new MarkeTrak system implemented by ERCOT  
6 creates significant efficiencies in the Retail Customer Choice department. While  
7 the department's workload is expected to remain fairly constant, its headcount is  
8 reduced by four (4) FTEs. The MarkeTrak improvements provide a good  
9 example of automation efforts paying dividends in reduced headcount  
10 requirements.

### 11 12 **III. MARKET OPERATIONS FUNCTIONS AND HEADCOUNTS**

#### 13 14 **Q. HOW DID THE MARKET OPERATIONS DIVISION BUDGET** 15 **DEVELOP ITS PROPOSED HEADCOUNT FOR 2009?**

16 A. As other witnesses describe in more detail, the entire ERCOT organization  
17 collectively performed an internal review of all functions and positions as part of  
18 development of the 2009 Budget. The "deep dive" process called on every  
19 department within each division to justify the need for all staff positions. This  
20 process called on all ERCOT managers to demonstrate that their staffing levels:  
21 (a) reflect all possible efficiencies going forward rather than simply repeating  
22 what was done in the past; and (b) are aligned with the new activities ERCOT is  
23 undertaking as part of the transition to the Nodal market.

24 The Market Operations division's budget is driven primarily by the costs of labor  
25 and benefits paid to our employees and, when necessary, outside contractors. The  
26 Market Operations divisions conducted a department-by-department functional  
27 task analysis, which provided the basis for the headcount requests included in the  
28 Board-approved 2009 Budget. Each department started its analysis from a zero  
29 headcount and documented its requested headcount based on the tasks that are  
30 within its designated responsibilities. Each department's task analysis was  
31 analyzed by division management. In some cases, the FTE headcount developed

1 in the task analysis became the basis for the 2009 Budget request. In other cases,  
2 the 2009 request was below that determined by the task analysis because  
3 management believed efficiencies were possible despite the task analysis.  
4 Division management worked with departmental staff as well as ERCOT's  
5 Finance organization to develop specific line items in the Market Operations  
6 Division budget request.

7  
8 **Q. IS THERE DOCUMENTATION TO SUPPORT EACH OF THE MARKET**  
9 **OPERATIONS DIVISION'S DEPARTMENTAL DEEP DIVE ANALYSES?**

10 A. Yes. The deep dive analyses for the Market Operations division are attached to  
11 my testimony as Exhibit RG-1.

12  
13 **Q. PLEASE IDENTIFY THE DEPARTMENTS WITHIN THE MARKET**  
14 **OPERATIONS DIVISION.**

15 A. The Market Operations division is divided into three organizational units: (1)  
16 CMO Administration; (2) Commercial Operations; and (3) Market Services. The  
17 departments within the Commercial Operations and Market Services units are  
18 listed below:

19 **Table 1**

<b>Commercial Operations</b>	<b>Market Services</b>
Data Acquisition & Meter Engineering	Market Rules & Stakeholder Support
Data Aggregation & Load Profiling	Wholesale Client Services
Settlements & Billing	Retail Client Services
Data Integrity	Division Project Organization
Retail Choice	Testing & Quality Assurance

20  
21 **Q. IS THE ADMINISTRATION DEPARTMENT RESPONSIBLE FOR**  
22 **OVERALL MANAGEMENT OF THE MARKET OPERATIONS**  
23 **DIVISION?**

24 A. Yes. The Administration department includes six (6) FTEs carried over from  
25 2008. It is responsible for the overall management of the division, and includes

1 myself, my assistant, the Director of Commercial Operations, the Director of  
2 Market Services, their assistant and the Critical Infrastructure Monitor. My  
3 assistant and the assistant to the Directors provide support for the entire Division  
4 and provide support for our new Chief Operating Officer as well as provide  
5 support for the Corporate Program Management Office based in Taylor. The  
6 headcount for 2009 will be increased from six (6) to eight (8) as described in the  
7 next section.

8  
9 **Q. HOW DID THE ADMINISTRATION DEPARTMENT ESTABLISH ITS**  
10 **HEADCOUNT?**

11 A. The Board-authorized headcount for the administration department in 2008 was  
12 six (6) FTEs. The tasks before the department for those FTEs are not appreciably  
13 different, although, as discussed earlier, the increase in oversight activities will  
14 likely require more time from existing management leadership. In addition, we  
15 expect an increase in hours associated with the months just before and after Nodal  
16 Go-Live, but those demands should be temporary and will be met at current  
17 staffing levels.

18 The headcount requested for 2009 is increased from six (6) FTEs to eight (8)  
19 FTEs due to new positions required for our Nodal operations. Kenneth Ragsdale,  
20 the Nodal Program expert in the business interfaces between system operations  
21 and commercial operations, will continue in that role post Nodal Go-Live  
22 reporting to the Director of Commercial Operations. Adam Martinez, the Nodal  
23 Program expert in all business interfaces with the new Nodal Management  
24 Information System displays, will continue in that position post Nodal Go-Live  
25 reporting to the Director of Market Services. These two new positions are critical  
26 to ongoing efficient and effective market operations for new Nodal activities.

27  
28 **Q. DO THE DEPARTMENTS WITHIN COMMERCIAL OPERATIONS AND**  
29 **MARKET SERVICES SHARE ANY COMMON TASKS?**

30 A. Yes. Personnel in all departments are called upon to provide expertise for certain  
31 activities that cross departmental lines. These activities are not normally part of

1 the day-to-day functions of department staff, but they can sometimes require  
2 substantial commitments of time. Such activities include:

- 3 (1) Subject-matter expertise in dispute resolution proceedings brought by  
4 Market Participants;
- 5 (2) Provide support, including research and oral or written reports, to the  
6 Commission, the Legislature, Market Participants, or other ERCOT staff;
- 7 (3) Provide necessary input to management activities such as SAS 70  
8 reporting and audit requests; and
- 9 (4) Participate in activities related to the transition from the Zonal to the  
10 Nodal market.

11 In each department's "deep dive" task analysis, department leadership took these  
12 internal management activities into account in developing headcount requests.

13  
14 **Q. WHAT STEPS WILL THE MARKET OPERATIONS DIVISION TAKE**  
15 **TO MAXIMIZE LABOR PRODUCTIVITY IN 2009?**

- 16 A. Management of the areas within the Division must ensure the full and effective  
17 use of all employees. If some expected work for 2009 does not materialize,  
18 management will reevaluate the need to replace personnel as a result of natural  
19 turnover. If any particular employees are not fully utilized at any time,  
20 management will ensure the maximization of the employee's contribution by  
21 assigning additional work to the employee, reassigning the employee or even  
22 terminating the employee, if we cannot identify any required work of equal or  
23 greater value.

24  
25 **Q. WHAT ARE THE SPECIFIC HEADCOUNT REQUESTS FOR EACH**  
26 **DEPARTMENT WITHIN THE MARKET OPERATIONS DIVISION?**

- 27 A. The following chart is extracted from the division's deep dive materials. It  
28 compares the departmental FTE numbers between those Board-authorized in 2008  
29 and those approved in the 2009 budget by the ERCOT Board of Directors:

**Table 2 : Market Operations FTEs 2008-2009**

<b>Department</b>	<b>2008 Authorized</b>	<b>2009 Requested</b>
500 - CMO Administration	6	8
530 - Settlement Metering	10	10
540 - Energy Analysis & Aggregation	10	10
550 - Settlements & Billing	23	25
570 - Retail Customer Choice	21	17
585 - Data Integrity & Administration	7	9
170 - Market Rules & Stakeholder Support	9	9
605 – Division Project Office	16	9
630 - Retail Market Analysis	4	4
640 - Market Operations Testing	30	27
650 - Retail Client Services	9	9
660 - Wholesale Client Services	19	21
<b>Total</b>	<b>164</b>	<b>158</b>

As shown in Table 2, the overall Board-authorized headcount for Market Operations will go down between 2008 and 2009: from 164 to 158 FTEs. The eight (8) additional FTEs Board-authorized by the Board for Market Operations are offset by a reduction in fourteen (14) FTEs from 2008 levels.

**A. COMMERCIAL OPERATIONS**

**Q. DIRECTING YOUR ATTENTION TO THE HEADCOUNTS FOR THE DEPARTMENTS WITHIN COMMERCIAL OPERATIONS, PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT FOR THE SETTLEMENT METERING DEPARTMENT.**

**A.** The 2009 Budget headcount for Settlement Metering is ten (10) FTEs. This is the same headcount Board-approved in the prior year's budget. The review of the Settlement Metering department indicated that most of its activities will remain



1 the same after implementation of the Nodal market as they have been in the Zonal  
2 market context. There will be significant work associated with entering EPS  
3 points into the new Network Model, but we expect that work not to require  
4 additional appreciable work efforts after the initial Nodal project is complete.  
5 The department expects some work related to advanced metering initiatives  
6 related to small renewable generation, but as of the time the 2009 Budget was  
7 prepared, Market Operations had not been assigned tasks associated with  
8 advanced metering that will generate work justifying the addition of new  
9 personnel.

10  
11 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
12 **FOR THE ENERGY ANALYSIS AND AGGREGATION DEPARTMENT.**

13 A. The 2009 Budget headcount for EA&A is ten (10) FTEs. This is the same  
14 headcount Board-approved in the prior year's budget. Like the Settlement  
15 Metering department, most of the tasks performed by the Energy Analysis and  
16 Aggregation department do not change significantly due to the shift to the Nodal  
17 market. The department does anticipate some increase in workload associated  
18 with advanced metering initiatives, but Market Operations has not been assigned  
19 tasks associated with advanced metering that will generate work justifying  
20 addition of new personnel.

21  
22 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
23 **FOR THE SETTLEMENTS AND BILLING DEPARTMENT.**

24 A. The Settlements and Billing department will experience many substantial changes  
25 due to the shift from the Zonal to the Nodal market. In addition, during at least  
26 the first half of 2009, Settlements and Billing will be required to continue  
27 performing Zonal market settlements as well as Nodal market settlements. This  
28 overlap is necessary to complete all transactions properly as the Zonal market  
29 winds down and is fully replaced by the Nodal market.

30 The Nodal system includes entirely new markets (Day Ahead Market and CRR),  
31 the novelty of which may result in more work for the staff providing settlement

1 and billing services for them. Nodal systems are more complex and generate  
2 approximately ten (10) times more data for processing through Settlements than  
3 in the Zonal market. The impact of errors in settlement calculations has a  
4 tremendous impact on Market Participants in the Nodal system, since settlement  
5 calculations have a direct effect on the credit position of Market Participants. The  
6 Settlements staff must be robust and well-trained to avoid errors as the new  
7 markets and systems go on line.

8 On the billing side, we estimate that the number of statements that Settlements  
9 and Billing must issue in the Nodal market doubles what has been required in the  
10 past, and the number of invoices jumps to nine (9) times current levels.  
11 Moreover, invoices will need to be generated, for the first time, on a daily basis.  
12

13 **Q. HOW DOES THE BUDGET FOR THE SETTLEMENT AND BILLINGS**  
14 **DEPARTMENT ADDRESS THE CHANGES BROUGHT ON BY THE**  
15 **MOVE TO THE NODAL MARKET?**

16 A. The 2009 budget includes an increase in the headcount for Settlement and Billing,  
17 from twenty-three (23) to twenty-five (25) FTEs. The “deep dive” task analysis  
18 put the number of FTEs needed closer to thirty (30), but management requested a  
19 smaller increase in FTEs as a cost control measure, and because the long-term  
20 impacts of certain of the Nodal-related developments are uncertain and do not  
21 justify increasing headcount at this time. In addition, Zonal market settlements  
22 will be handled by contractors rather than department FTEs. These contractors  
23 will no longer work in the department once Zonal settlements no longer need to  
24 be processed. This approach reduces overall headcount and keeps personnel  
25 dedicated to Zonal “clean-up” on duty only for the period when they are needed.  
26

27 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
28 **FOR THE RETAIL CUSTOMER CHOICE DEPARTMENT.**

29 A. The 2009 headcount for Retail Customer Choice is seventeen (17), down from the  
30 2008 headcount of twenty-one (21). The work of the Retail Choice department  
31 will not be affected significantly by the transition to the Nodal market. The

1 department's tasks remain basically the same, but the "steady state" includes  
2 major responsibilities: handling approximately 60,000 customer switches per  
3 month; 9,000 move-in transactions per day; and work on over 800,000 exceptions  
4 cases annually. As discussed earlier, however, the Retail Customer Choice has  
5 been able to create important efficiencies with the implementation of the new  
6 MarkeTrak system. The new system performs certain tasks previously performed  
7 manually and substantially improves the accuracy of communications eliminating  
8 significant re-work of issues. These efficiencies gave our staff the confidence to  
9 recommend a reduced headcount in Retail Customer Choice by four (4) FTEs in  
10 2009.

11  
12 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
13 **FOR THE DATA INTEGRITY AND INTEGRATION DEPARTMENT.**

14 **A.** The 2009 Budget headcount for the Data Integrity and Integration department  
15 increases by two (2) over the 2008 level, from seven (7) to nine (9) FTEs. Like  
16 Settlements and Billing, the Data Integrity and Integration department is affected  
17 by the increased levels and complexity of the transactions associated with the  
18 Nodal market. In addition, the department must ensure the integrity of the data  
19 running through Commercial Operations' systems during the transition period  
20 from Zonal to Nodal. While the transitional work is expected to end in 2009,  
21 there is a sufficiently greater level of activity affecting the core functions of the  
22 department to justify an increase in the FTEs dedicated to it. For example, the  
23 staff currently is responsible for forty-three (43) Commercial Systems extracts  
24 and reports; the number of regular extracts and reports increases to fifty-nine (59)  
25 after the Nodal market transition.

26  
27 **B. MARKET SERVICES**

28  
29 **Q. TURNING NOW TO THE MARKET OPERATIONS DEPARTMENTS IN**  
30 **THE MARKET SERVICES DEPARTMENTS, PLEASE DESCRIBE THE**

1           **RATIONALE FOR THE 2009 HEADCOUNT FOR THE MARKET RULES**  
2           **AND STAKEHOLDER SUPPORT DEPARTMENT.**

3       A.     The 2009 budget headcount for the Market Rules and Stakeholder Support  
4           department remains at its 2008 level: nine (9) FTEs. In 2008, ERCOT recognized  
5           the need to add one FTE to the department to accommodate a significant increase  
6           in stakeholder activities related to protocol changes and change requests. The  
7           department staff expects the level of protocol activity to remain historically high  
8           through 2009 as Market Participants refine the Nodal market rules. In particular,  
9           the rules governing the Day Ahead and CRR markets may require revision once  
10          those new markets have been operational for a meaningful period of time.  
11          Finally, the department's estimate of the number of stakeholder meetings, and the  
12          amount of staff time needed to support the meetings and associated committee  
13          work, remains similar to the number conducted through 2007. Therefore, the  
14          support and logistics support required from the department are expected to remain  
15          fairly constant.

16  
17       **Q.     PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
18       **FOR THE RETAIL CLIENT SERVICES DEPARTMENT.**

19       A.     The Retail Client Services department headcount in the 2009 budget holds steady  
20           at the level Board-approved for 2008: nine (9) FTEs. The department expects  
21           some increase in workload due to changes in the mix of Retail Electric Providers  
22           ("REPs") operating in Texas, as well as the need to provide special support to  
23           REPs related to issues surrounding the transition to the Nodal market. The  
24           increases are difficult to quantify until the transitional period occurs, however,  
25           and management is confident that the department's tasks can be handled with  
26           current headcount, supplemented when necessary by overtime compensation.

27  
28       **Q.     PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
29       **FOR THE RETAIL MARKET ANALYSIS DEPARTMENT.**

30       A.     The 2009 Budget headcount for Retail Market Analysis is the same as its 2008  
31           headcount: four (4) FTEs. The nature of the department's activities will not

1 change significantly in the transition to the Nodal market. The department  
2 expects a slight increase in reporting activities associated with the growth in the  
3 number of Market Participants, but has determined that the expected increases in  
4 workload can be addressed through task prioritization or occasional overtime  
5 compensation.

6  
7 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
8 **FOR THE WHOLESALE CLIENT SERVICES DEPARTMENT.**

9 A. The Wholesale Client Services department increases its headcount by two (2)  
10 FTE in the 2009 Budget, from nineteen (19) to twenty-one (21) FTEs. The  
11 expected increase in workload for the Wholesale Client Services department is  
12 attributable to several factors related to the transition to the Nodal market. First,  
13 the department staff anticipates activity to increase generally because of the  
14 increased number of QSEs expected in the Nodal market. Second, the staff  
15 anticipates more client services will be necessary due to the large number of new  
16 market rules, settlement calculations, and other issues that will generate questions  
17 and concerns from wholesale Market Participants. Third, staff expects disputes  
18 related to the new Nodal markets to run at a relatively high level as the nuances of  
19 the new markets are worked out, and Nodal Protocols and market rules are  
20 interpreted and possibly adjusted. The department is also responsible for handling  
21 Nodal asset registration and the new Nodal dashboard, but those are one-time  
22 efforts that will be performed by contractors rather than new FTEs.

23  
24 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
25 **FOR THE MARKET OPERATIONS DIVISION PROJECT OFFICE.**

26 A. The Division Project Office (“DPO”) for Market Operations reduced its  
27 headcount in the 2009 budget by seven (7) FTEs, from sixteen (16) FTEs to nine  
28 (9) FTEs. The DPO expects it can reduce current headcount by seven (7) FTEs  
29 due to reorganization re-assignments and the reduction in projects addressing non-  
30 Nodal issues. Four (4) Business Analyst positions and three (3) project manager  
31 positions were eliminated. FTEs in those positions were re-assigned to open

1 positions in other departments where there is a better fit for their expertise. The  
2 net headcount reduces the current headcount to the nine (9) approved by the  
3 Board in the 2009 Budget.  
4

5 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
6 **FOR THE MARKET OPERATIONS TESTING DEPARTMENT.**

7 A. The 2009 Budget headcount for the Testing department includes a reduction of  
8 three (3) FTEs, from thirty (30) to twenty-seven (27) FTEs. The Testing staff still  
9 expects to have significant new work in 2009, including efforts related to: (a)  
10 fixing minor “bugs” that may be discovered in nodal commercial systems after  
11 they are operational; (b) providing testing for systems that may be changed  
12 through the Nodal Protocol Revision Request (“NPRR”) process; and (c) data  
13 extract and reporting testing that the department expects to increase after Nodal is  
14 implemented over the levels common in the Zonal market. In spite of the  
15 continued demand for testing expertise, the department staff expects to experience  
16 an overall drop-off in testing in 2009. The needs for testing during the  
17 development and design phase of Nodal implementation were extraordinarily  
18 high, and caused the department to increase its size (in both FTEs and  
19 contractors). When that high tide passes after Nodal Go-Live, the department  
20 believes it can reduce its headcount and still maintain the resources needed to  
21 accomplish its tasks.  
22

23 **IV. 2009 MARKET OPERATIONS BUDGET**  
24

25 **Q. WHAT IS THE TOTAL 2009 BUDGET FOR THE MARKET**  
26 **OPERATIONS DIVISION APPROVED BY THE ERCOT BOARD OF**  
27 **DIRECTORS?**

28 A. The total 2009 Board-approved operating expense budget is \$17,690,168. This  
29 compares to a total 2008 operating expense budget of \$14,302,579.  
30

1 **Q. IF THE HEADCOUNT FOR THE MARKET OPERATIONS DIVISION IS**  
2 **DECREASING, WHY IS THE OVERALL OPERATING EXPENSE**  
3 **BUDGET HIGHER THAN IN 2008?**

4 A. Operating a Nodal market will cost more than operating a Zonal market. In  
5 addition, costs associated with settlement and billing activity for both Zonal and  
6 Nodal in 2009 drive the operating expense budget for 2009 higher than 2008. A  
7 24% increase in operating expenses associated with the Nodal transition is  
8 reasonable. This operating expense increase over 2008 should decline to only a  
9 17% increase in 2010 when dual Zonal and Nodal settlement and billing activity  
10 is terminated.

11 The perceived disconnect between 2008 and 2009 operating expenses attributable  
12 to labor and benefits has to do with the difference in capitalized costs versus  
13 operating expenses. The “labor and benefits” category, which is driven by  
14 headcount, is by far the largest category in the Market Operations budget. The  
15 actual Market Operations expenditures on labor and benefits decrease in 2009.  
16 The operating expense budget numbers for labor and benefits increase, however,  
17 because in 2009 Nodal operations are budgeted as part of ERCOT’s base  
18 operations rather than capitalized in the budget for the Texas Nodal Market  
19 Implementation Program (“Nodal Program”).

20  
21 **Q. PLEASE EXPLAIN THE IMPACT OF THIS CHANGE ON THE**  
22 **MARKET OPERATIONS BUDGET.**

23 A. In 2007 and 2008, the Market Operations division increased its expenditures on  
24 labor and benefits to meet the demands of the development of the Nodal market.  
25 ERCOT hired certain employees to assist in Nodal development and  
26 implementation who could then become part of the ERCOT team that will operate  
27 the Nodal market after Go-Live. During the development of the Nodal market,  
28 employees recorded their time to either the Nodal Program projects or ERCOT’s  
29 “base operations” (*i.e.*, tasks not associated with the Nodal Program). This was  
30 necessitated by the need to track Nodal Program expenses separately, in part  
31 because they were funded from a different source than ERCOT base operations.

1 For purposes of the overall ERCOT base operations budget, when ERCOT  
2 employees recorded time to one of the Nodal projects, ERCOT effectively  
3 credited base operations to lower the base labor costs by the amount charged to  
4 Nodal.

5 For example, in 2008, the Market Operations division's expenditures on labor and  
6 benefits were \$17,817,461. Of that amount, \$5,072,772 was attributable to Nodal  
7 Program projects. For budgeting purposes, the \$5 million was credited against the  
8 total labor and benefits expenditures, and was slated for recovery via the Nodal  
9 Surcharge. The remaining labor and benefits amount was attributed to the  
10 division's base operations, and recovered from the System Administration Fee. In  
11 2009, however, all labor and benefits costs will be attributed to ERCOT's base  
12 operations. Therefore, the "credit" to the division's labor and benefits budget no  
13 longer exists. In 2009, the total approved labor and benefits expenditures are  
14 \$17,851,616.

15  
16 **Q. HOW DID YOU DETERMINE COMPENSATION LEVELS INCLUDED**  
17 **IN THE 2009 ERCOT BUDGET FOR LABOR COSTS IN THE MARKET**  
18 **OPERATIONS DIVISION?**

19 A. For existing employees, existing salaries were used. For vacant or new positions,  
20 salaries were estimated by Finance based on the mid-point salary for the job  
21 grade. If the position is new and has not been assigned a job grade, it is slotted  
22 based on similar type positions and then reviewed in detail after a full position  
23 analysis is performed by Human Resources upon posting the position. Human  
24 Resources provide support to Finance to calculate the proper loading for benefits  
25 to be included in the ERCOT Budget. The benefit load is determined by prior  
26 year expenses and actuarial assumption of future expenses.

27  
28 **Q. COULD THE MARKET OPERATIONS DIVISION REDUCE THE**  
29 **NUMBER OF FTES BY HIRING CONSULTANTS?**

30 A. Yes, we could reduce the number of new FTEs planned for 2009 by using  
31 consulting resources. However, doing so would cost more for those efforts which



are considered ongoing. Conversely, hiring all FTEs is also an alternative, although also not cost-effective for discrete projects. ERCOT has planned for a combination of FTEs and the targeted use of consultants to perform its responsibilities. ERCOT considers this a more cost effective, balanced approach versus using all consultants or hiring all FTEs. In the final analysis, the Market Operations division can reduce its budget and headcount, but then ERCOT must consider the significant risks that pose to the completion of the tasks it has been given to complete in the Texas market.

**Q. IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON LABOR TO ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

A. Yes, the amount included in the 2009 budget for labor and benefits is reasonable to accomplish our current responsibilities and future tasks for which scoping and planning were able to be completed prior to this filing.

**Q. DESCRIBE THE EXPECTED OUTSIDE SERVICES NEEDS FOR THE MARKET OPERATIONS DIVISION FOR 2009.**

A. Market Operations has a budget of \$2,589,452 for outside services for 2009. This amount is down substantially from 2008 levels, as depicted in the following table:

**Table 3**

Year	Outside Service Expenses	Change from Prior Year
2008	\$3,291,792	--
2009	\$2,589,452	\$702,340

The primary tasks for which ERCOT is relying on assistance from outside contractors include:

- (1) Outsourced 24x7 call center, postcard printing and mailing, switch cancellation and database services related to retail switching and move in/move out activities.
- (2) Contractors needed to maintain Zonal activities for first six months after Nodal Go-Live.

1 (3) Consultants with power plant and other specific industry expertise to  
2 verify submissions for Verifiable Costs and Reliability Must Run  
3 (“RMR”) cost submissions.

4 (4) Staff augmentation for business analyst services and statistical consulting  
5 services through third quarter 2009 in anticipation of increase in workload  
6 during the Nodal market transition (*e.g.*, Nodal settlement disputes and  
7 additional Market Participant education, and *ad hoc* analyses required by  
8 new issues arising in Nodal market).

9  
10 **Q. HAS MARKET OPERATIONS TAKEN STEPS TO REDUCE ITS**  
11 **OUTSIDE SERVICES EXPENSES?**

12 A. The division has worked diligently to control outside services expenses. The  
13 division reduced its reliance on outside services by 40% since 2004, when outside  
14 services totaled over \$4,000,000. The demands of Nodal implementation  
15 increased the need for outside service contracts in 2007 and 2008, but as the  
16 market settles in after the Nodal transition, we expect to continue using less  
17 outside services in Market Operations. For the 2009 ERCOT Budget, Market  
18 Operations has limited outside service requests to: (a) critical functions better  
19 performed by outside consultants and contractors; and/or (b) large, one-time or  
20 short-term tasks, mostly associated with managing the transition from the Zonal to  
21 the Nodal market. Additionally, the division has worked to fill existing vacant  
22 positions with employees in order to reduce the need for staff augmentation  
23 contractors.

24  
25 **Q. WHY DO YOU EXPECT TO USE OUTSIDE SERVICES TO PERFORM**  
26 **THESE TASKS RATHER THAN USING ERCOT EMPLOYEES?**

27 A. ERCOT uses outside services when it is not considered prudent to hire specific  
28 skills or talents on a permanent basis. This usually occurs when special, short-  
29 term efforts require specialized skills. ERCOT also uses consultants for project  
30 work that has scheduled end points and when necessary to ensure independence  
31 from ERCOT, for example, independent auditors.

1 **Q. HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
2 **OUTSIDE SERVICES FOR THE MARKET OPERATIONS DIVISION?**

3 A. Generally, management determined that number by either (1) estimating the  
4 number of hours of outside services required for a given project or task, or (2) if  
5 contemplated as fixed fee services, estimating costs based on prior experience. If  
6 calculated based on a time and materials basis, we multiplied the hours by an  
7 average hourly rate based on ERCOT's past experience with paying personnel  
8 with the required skill sets and background to perform the task.  
9

10 **Q. IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
11 **OUTSIDE SERVICES TO ACCOMPLISH THE SCHEDULED TASKS**  
12 **FOR 2009?**

13 A. Yes, the amount included in the 2009 budget for outside services is reasonable to  
14 accomplish the division's tasks for 2009, particularly those tasks we expect to be  
15 short-term issues driven by the transition to the Nodal market.  
16

17 **Q. DESCRIBE THE NEED FOR AND BENEFITS OF THE EMPLOYEE**  
18 **EXPENSES INCLUDED IN THE BUDGET FOR THE MARKET**  
19 **OPERATIONS DIVISION.**

20 A. The Market Operations Division incurs necessary employee expenses as follows:  
21 (1) Attendance and representation at meetings for the development and  
22 discussion of industry standards to help influence changes and ensure  
23 proper understanding of the effect changes have on the ERCOT Region;  
24 (2) Providing system access for employees who must perform weekend or  
25 after-hours duties required to facilitate ERCOT processes and procedures.  
26 Such duties include, but are not limited to, special responses to specific  
27 Market Participant needs, emergency activities (such as major weather  
28 events), data and systems problems requiring immediate attention, system  
29 migrations (almost always on weekends), and special projects requested  
30 by management, the Commission or others;

- 1 (3) Traveling to perform compliance monitoring activities and Market  
2 Participant training to ensure an understanding of and compliance with the  
3 Protocols. In addition, traveling to Market Participant sites to engage in  
4 training and education or resolution of systemic issues negatively  
5 impacting a Market Participant's performance, ERCOT's operations or the  
6 operations of other Market Participants; and  
7 (4) Meeting with end users of ERCOT service platforms, reports and extracts,  
8 to ensure that we design new systems to meet the diverse needs as defined  
9 by users, as opposed to requirements defined exclusively by ERCOT Staff  
10 or Market Participant committee representatives.

11 The Market Operations division's employee expenses in the 2009 budget are  
12 significantly below 2008 expenditures (a reduction of \$63,302). Division  
13 management closely monitors employee expenses, and we are constantly working  
14 to streamline and make ERCOT staff's support of the stakeholder process more  
15 efficient and effective.  
16

17 **Q. IN YOUR OPINION, IS THE BUDGET FOR THE MARKET**  
18 **OPERATIONS DIVISION REASONABLE AND SUFFICIENT TO**  
19 **ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

20 A. Yes.  
21

22 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

23 A. Yes, it does.



# ERCOT Organizational Deep Dive

MARKET OPERATIONS

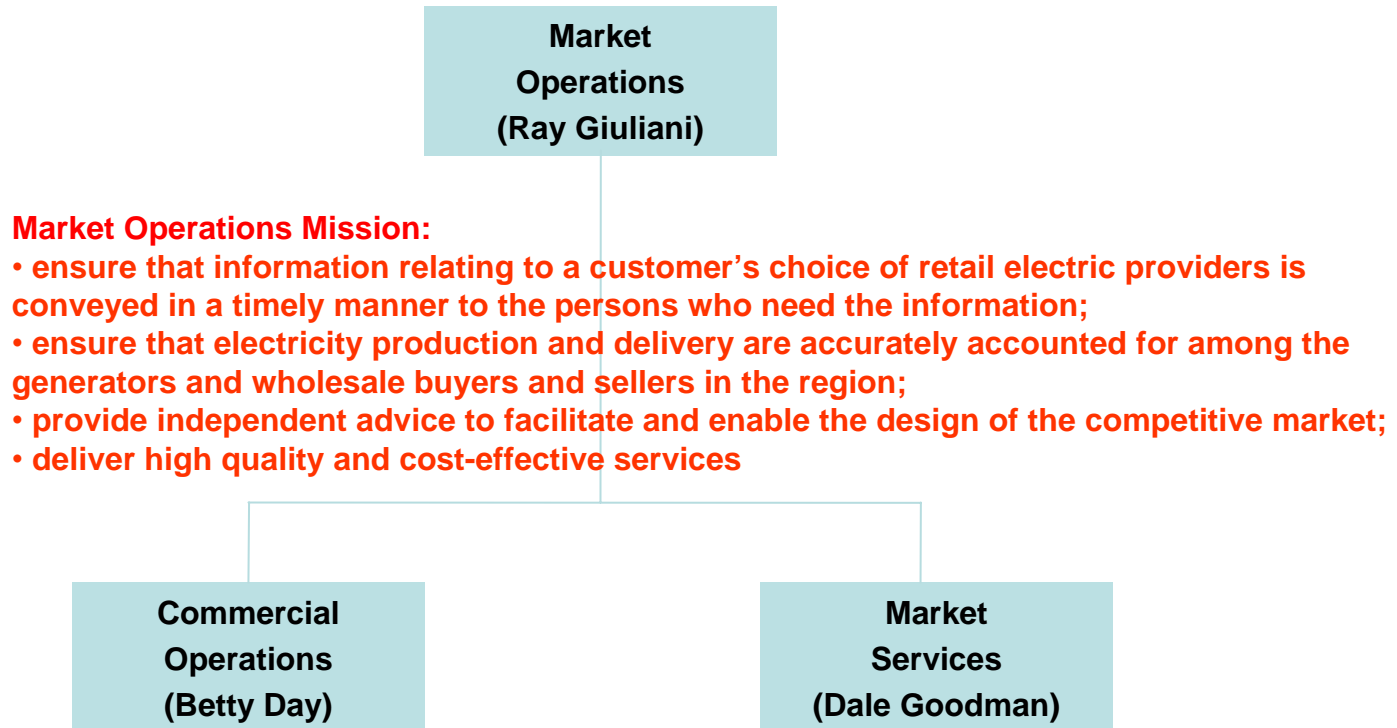
Ray Giuliani

Vice President and Chief of Market Operations

**May 2008**

- **Mission and Organization Structure**
- **Departments and Core Functions**
- **Factors Impacting Staffing**
- **Department Staffing Analysis**

# MARKET OPERATIONS – Mission and Organization Structure



# Commercial Operations Departments and Core Functions

Settlement Metering (Don Tucker)	Energy Analysis & Aggregation (Calvin Opheim)	Settlements & Billing (Amanda Bauld)	Data Integrity & Administration (Jackie Ashbaugh)	Retail Customer Choice (Karen Farley)
<ul style="list-style-type: none"> <li>Data Acquisition                             <ul style="list-style-type: none"> <li>-EPS Meter Polling</li> <li>-VEE for EPS Meters</li> <li>-EPS Data Loading</li> <li>-Monitor TDSP Access to EPS Facilities</li> </ul> </li> <li>EPS Meter Engineering                             <ul style="list-style-type: none"> <li>-Design Approval</li> <li>-Exemption Approval</li> <li>-Site Approvals, Monitor, Review &amp; Audit Inspector Training</li> <li>-Maintain Guides, Forms &amp; Procedures</li> <li>-Maintain settlement metering web page</li> <li>-Review/Approve DLF methodology</li> </ul> </li> <li>Competitive Metering                             <ul style="list-style-type: none"> <li>-Status Reporting</li> <li>-Maintain Guides</li> <li>-Qualifying Meter List</li> <li>-Maintain Competitive Metering Web Page</li> </ul> </li> <li>Engaged in dispute resolution, as necessary</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audits</li> </ul>	<ul style="list-style-type: none"> <li>Data Aggregation                             <ul style="list-style-type: none"> <li>-Modeling: Load Generation, NOIEs, DC Ties, Losses</li> <li>-Reporting &amp; Posting: Losses, UFE, IDR est</li> <li>-Output Verification</li> </ul> </li> <li>Load Profiling Modeling                             <ul style="list-style-type: none"> <li>-Analysis</li> <li>-Segmentation</li> <li>-Weather Zones</li> </ul> </li> <li>Daily Creation &amp; Verification of Load Profiles</li> <li>Validate Profile Assignments to ESI IDs</li> <li>Analyze/Evaluate New Load Profile Requests</li> <li>Load Research Sampling/Data Analysis</li> <li>Monitor/Report Switched Load</li> <li>Create &amp; Track SIRs</li> <li>Lodestar SIR and upgrade testing, migration support and production verification</li> <li>Engaged in dispute resolution, as necessary</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audits</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the accuracy of Settlement calculations and Invoicing calculations</li> <li>Ensure timely delivery of Daily Settlement Statements and Weekly Invoices</li> <li>Conduct Annual &amp; Monthly TCR Auction</li> <li>Process selected input data from - Data Agg, TCRs, Planning, Sys Ops)</li> <li>Ensure manual data imports and workarounds are executed correctly</li> <li>Ensure timely and accurate processing of Verifiable Cost submittals from QSE's and Disputes</li> <li>Schedule runs for Lodestar system workflow</li> <li>Prepare standard monthly and ad-hoc reports</li> <li>Create &amp; Track SIRs</li> <li>Lodestar SIR and upgrade testing, migration support and production verification</li> <li>Engaged in dispute resolution, as necessary</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audit</li> </ul>	<ul style="list-style-type: none"> <li>Ensure COMS ESIID &amp; Market Participant Data Integrity – Daily Assurance</li> <li>Ensure COMS Extracts and reports data integrity</li> <li>Owner of Data Extract Variance Resolution – Wholesale</li> <li>Consumption Data Loading</li> <li>Systems Synchronization                             <ul style="list-style-type: none"> <li>-Siebel &amp; Lodestar</li> <li>-Lodestar &amp; EIS</li> <li>-Siebel &amp; EIS</li> <li>-EIF &amp; EIS</li> </ul> </li> <li>Support Business Intelligence layer of EIS</li> <li>Lodestar system health checks and problem identification</li> <li>Lodestar system work flow exception clearing &amp; reprocessing validation</li> <li>Create &amp; Track SIRs</li> <li>Siebel &amp; Lodestar &amp; EIS SIR and upgrade testing, migration support and production verification</li> <li>Engaged in dispute resolution, as necessary</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audits</li> </ul>	<ul style="list-style-type: none"> <li>Ensure Transaction Integrity – Daily Assurance</li> <li>Owner of Data Extract Variance Resolution - Retail</li> <li>Market Synchronization                             <ul style="list-style-type: none"> <li>-REPs / TDSPs / ERCOT</li> <li>-Reject monitoring</li> <li>-Issue analysis and resolution</li> <li>-Safety Net monitor /reconcile</li> </ul> </li> <li>Systems Synchronization                             <ul style="list-style-type: none"> <li>-NAESB &amp; Paperfree</li> <li>-Paperfree &amp; TCH</li> <li>-TCH &amp; Siebel</li> <li>-MarkeTrak</li> <li>-ETS</li> </ul> </li> <li>Retail systems health checks and problem identification</li> <li>Retail systems work flow exception clearing &amp; reprocessing validation</li> <li>Create &amp; Track SIRs</li> <li>Retail SIR and upgrade testing, migration support and production verification</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audits</li> </ul>



# Market Services Departments and Core Functions

Market Rules (Kristi Hobbs)	Wholesale Client Services (Patrick Coon)	Retail Market Analysis and Client Services (Jack Adams)	Division Project Organization (Hope Parrish)	Testing & Q/A (Tom Baum)
<ul style="list-style-type: none"> <li>Facilitate ERCOT Market Rule Change Process                             <ul style="list-style-type: none"> <li>–Protocol Revision Requests (PRRs)</li> <li>–System Change Requests (SCRs)</li> <li>–Market Guides Revision Requests</li> </ul> </li> <li>Deliver Stakeholder Services                             <ul style="list-style-type: none"> <li>–Provide transparency into proceedings of stakeholder subcommittee meetings</li> <li>–Provide meeting logistics coordination for stakeholder meetings</li> </ul> </li> <li>Provide TAC Meeting Management Support</li> <li>Provide Level 2 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including audits</li> </ul>	<ul style="list-style-type: none"> <li>Ensure Adequacy of Wholesale Market Participant Communications</li> <li>Issue Wholesale Market Notifications and Bulletins</li> <li>Manage Generator, TDSP and QSE Registration</li> <li>Manage QSE Qualification Process</li> <li>Lead Dispute Resolution Process</li> <li>Conduct Wholesale Market Education</li> <li>Perform QSE and Generator Account Management / Provide Single Point of Contact</li> <li>Provide WMS and COPS Meeting Management Support</li> <li>Provide Level 2 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including SAS 70 and other audits</li> </ul>	<ul style="list-style-type: none"> <li>Ensure Adequacy of Retail Market Communications</li> <li>Issue Retail Market Notifications and Bulletins</li> <li>Manage Retail Electric Provider Registration</li> <li>Process Market Participant Issue Resolution</li> <li>Conduct Retail Market Education</li> <li>Perform TDSP and Retail Electric Provider Account Management / Provide Single Point of Contact</li> <li>Provide RMS Meeting Management Support</li> <li>Coordinate Mass ESI ID Transition for retired REPs</li> <li>Provide ETS Reporting and Comply with PUCT Reporting Requirements</li> <li>Manage Outsourced Retail Choice Customer Care Center and Customer Notifications</li> <li>Provide Level 2 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including audits</li> </ul>	<ul style="list-style-type: none"> <li>Deliver projects on time, within budget and meeting the business requirements</li> <li>Create Project Plans</li> <li>Lead the definition of requirements and acceptance criteria, coordinate systems development and product implementation, and certify go-live with other departments</li> <li>Collect, compile, and analyze project activity data</li> <li>Publish weekly reports for all active projects; monthly Divisional and Corporate reports</li> <li>Develop and maintain Divisional-Project Priority List (PPL) strategy, supporting business case and development of high-level project release plans and associated resource plans</li> <li>Conduct MO/RO Continuous Analysis &amp; Review Team (CART) meetings</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, including audits</li> </ul>	<ul style="list-style-type: none"> <li>Perform All Project Testing for Retail Operations, Settlement and Billing Operations, Enterprise Information Services, and Corporate Operations</li> <li>Perform Testing for selected projects in IT Infrastructure Operations and System Operations</li> <li>Perform All SIR Testing for Retail Operations, Settlement and Billing Operations, Enterprise Information Services, and Corporate Operations</li> <li>Perform SIR Testing for selected applications in System Operations</li> <li>ERCOT Liaison to Texas Market Test Plan Team</li> <li>Coordinate Market Participant Testing – includes Flight Administration/ - Coordinate/Test/Certify</li> <li>Provide Level 3 Support for Market Participants, PUCT and ERCOT staff</li> <li>Nodal transition activities</li> <li>Mgmt &amp; Admin, audits</li> </ul>

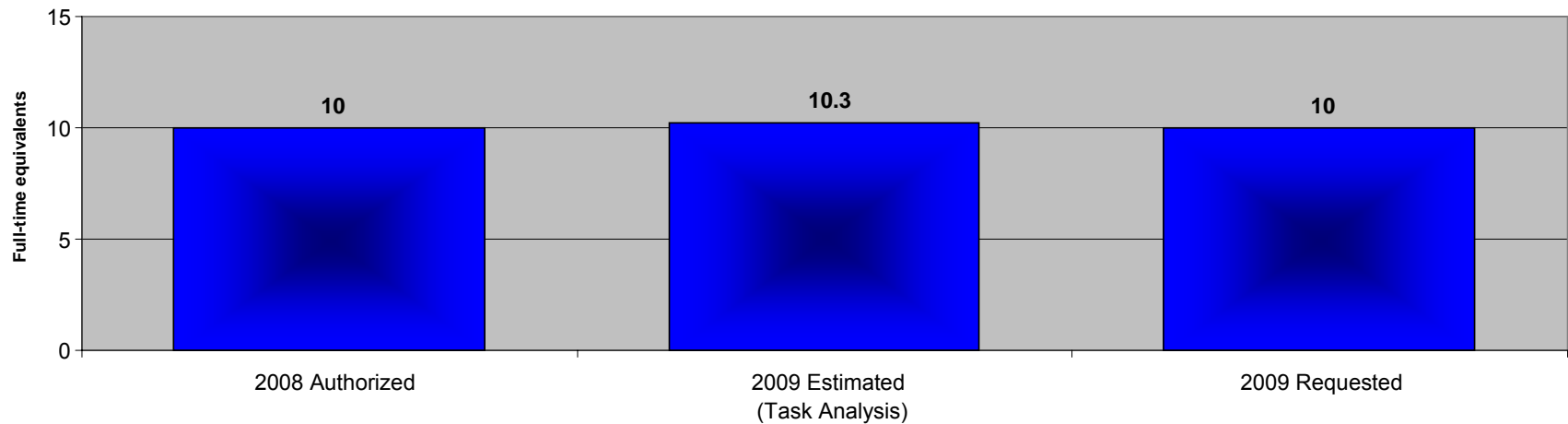
# Factors Impacting Staffing

- **Volume and complexity of data and transactions**
  - Base
  - Nodal
  - Distributed Generation
  - Renewables
  - Demand-side
  - Time of Use
- **Oversight activities**
  - SAS 70
  - PUCT
  - Enterprise Risk Management
  - Internal Controls Management Program
  - Internal Audits
- **Infrastructure modifications**
  - Information Technology
  - Policies, Processes, and Procedures
    - Program Management and Project Q/A
    - Procurement
    - Contract Administration
    - Staffing, Slotting, Pay Administration
  - Organization changes

# Department Staffing Analysis

Department	2008 Authorized	2009 Task Analysis	2009 Requested
500-CMO Administration	6	9.0	8
530-Settlement Metering	10	10.3	10
540-Energy Analysis & Aggregation	10	11.3	10
550-Settlements & Billing	23	27.0	25
570-Retail Customer Choice	21	18.2	17
585-Data Integrity & Admin	7	10.5	9
170-Market Rules	9	9.2	9
605-Div. Project Organization	16	9.5	9
630-Retail Market Analysis	4	4.4	4
640-Testing & Q/A	30	29.9	27
650-Retail Client Services	9	9.5	9
660-Wholesale Client Services	19	25.6	21
<b>Total</b>	<b>164</b>	<b>174.4</b>	<b>158</b>

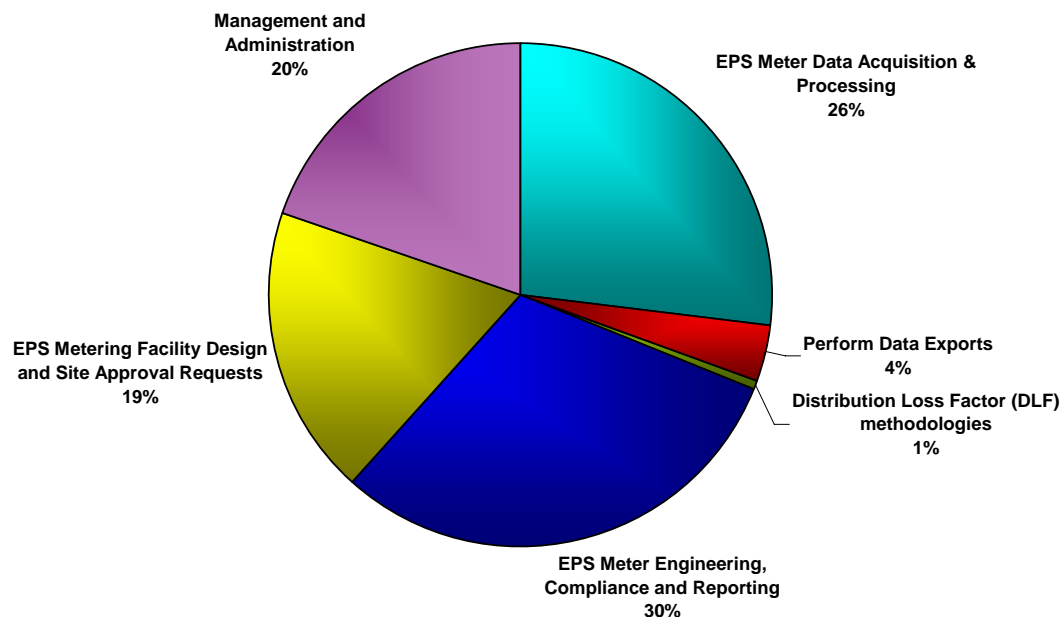
# Dept 530 – Settlement Metering Headcount Overview



## Summary Points

- ❑ Most activities between Zonal and Nodal remain the same
- ❑ Nodal changes to settlement calculations require coordination with the Network Modeling Group to have ERCOT Polled Settlement (EPS) metering points entered into the Network Model. Department staff will work with the modeling group to ensure proper placement of the EPS meter in the Network Model. In addition, departmental staff will assist, as needed, in discussions to obtain signoff from the Resource on the location of the EPS metering points in the Network Model.
- ❑ No additional headcount required for initiative related to PUCT initiate on Distributed Generation

# Dept 530 – Settlement Metering Allocation by Function

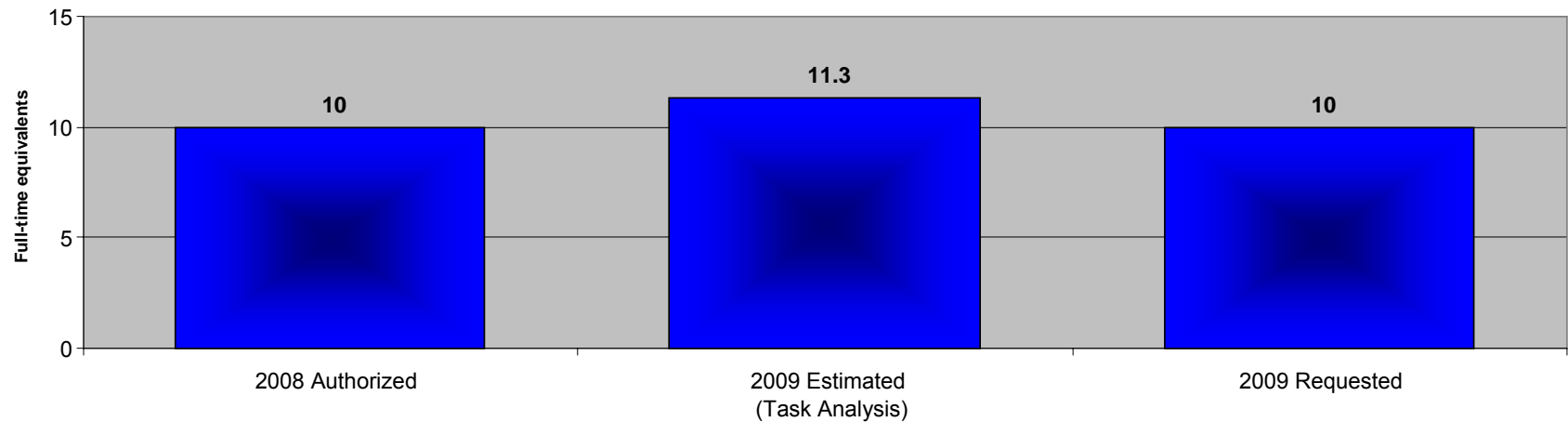


## Key Points

- ❑ **Approval & Oversight Activities**
  - ❑ ~ 300 EPS metering facilities
  - ❑ ~ 660 EPS metering points
  - ❑ ~ 12-15 site audits annually
- ❑ **Data Acquisition & Processing**
  - ❑ ~ 1300 EPS meters polled daily
- ❑ **Presence in Industry Forums where metering standards and policies are discussed**

# Dept 540 – Energy Analysis and Aggregation

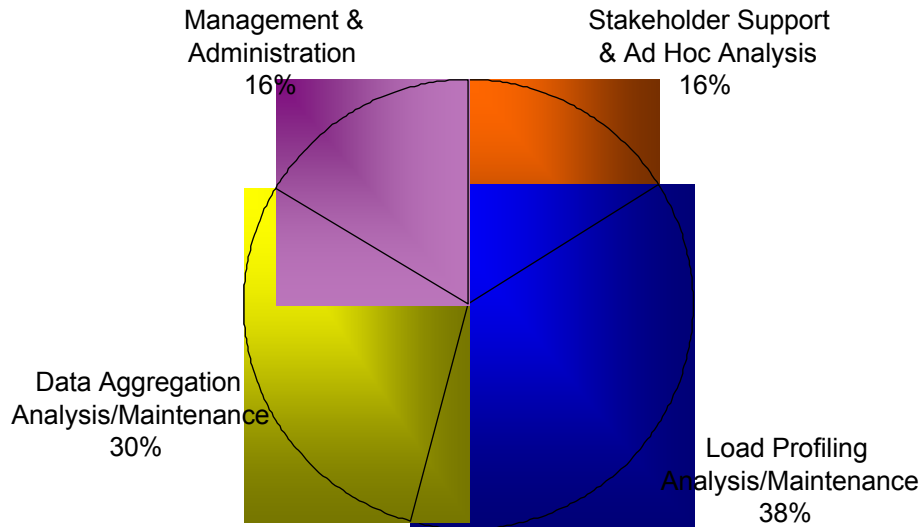
## Headcount Overview



### Summary Points

- ❑ Most activities between Zonal and Nodal remain the same
- ❑ Will absorb increased work due to PUCT initiatives (Demand Response, Distributed Generation, Renewables, Time of Use, etc.) into current staffing level
- ❑ Will accomplish the resource deficit between prioritization of tasks and overtime, not by adding another person

# Dept 540 – Energy Analysis and Aggregation Allocation by Function

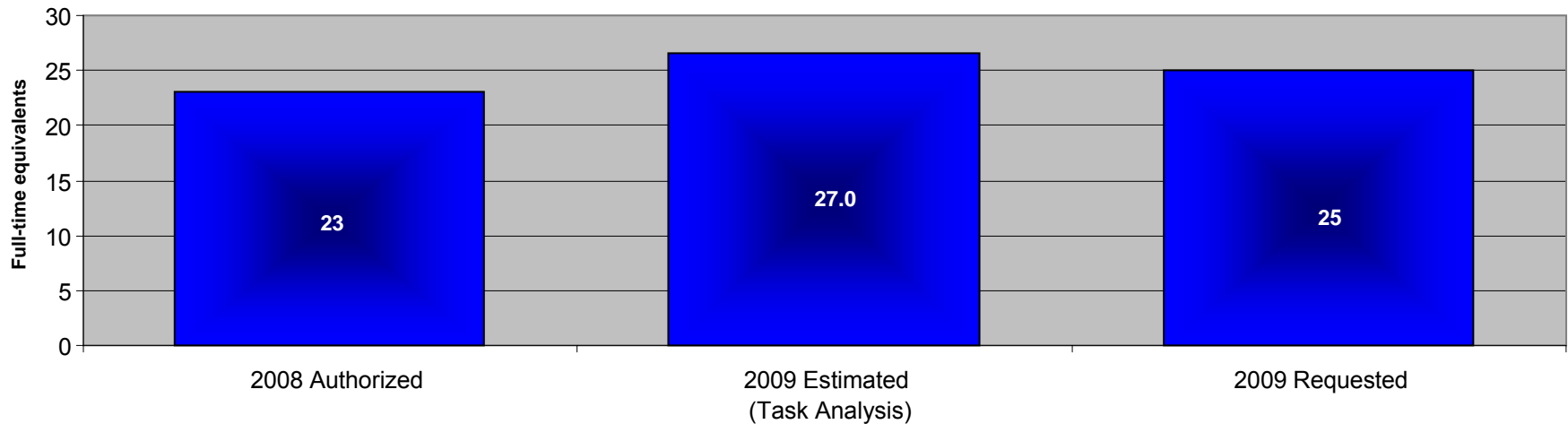


## Key Points

- ❑ **Data Aggregation**
  - ❑ **Modeling:** Load, generation, NOIEs, DC Ties, Losses
  - ❑ **Reporting:** Losses, UFE
- ❑ **Load Profiling**
  - ❑ **Modeling**
  - ❑ **Annual Validation of Profile Assignments**
  - ❑ **Load Research Sampling & Analysis**

# Dept 550 – Settlements and Billing

## Headcount Overview

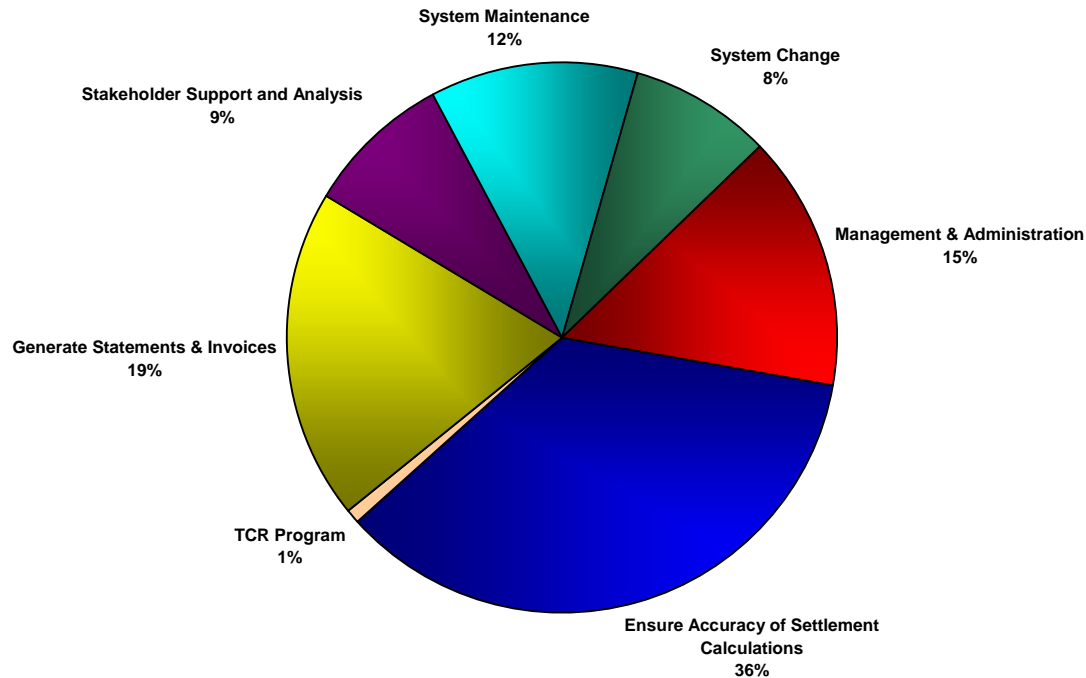


### **Summary Points**

- ❑ Two (2) additional FTEs are requested beyond the 2008 Approved amount to complete the staff increase from 18 in 2007 to 25 in 2009 due to Nodal
  - ❑ Day Ahead Market Settlements
  - ❑ Real Time Market Settlements
  - ❑ Congestion Revenue Rights Settlements
  - ❑ Verifiable Costs
- ❑ Zonal settlements will continue at least 6 months after Nodal go-live and will be handled via contractors – not by the in-house staff per the 2009 Requested above



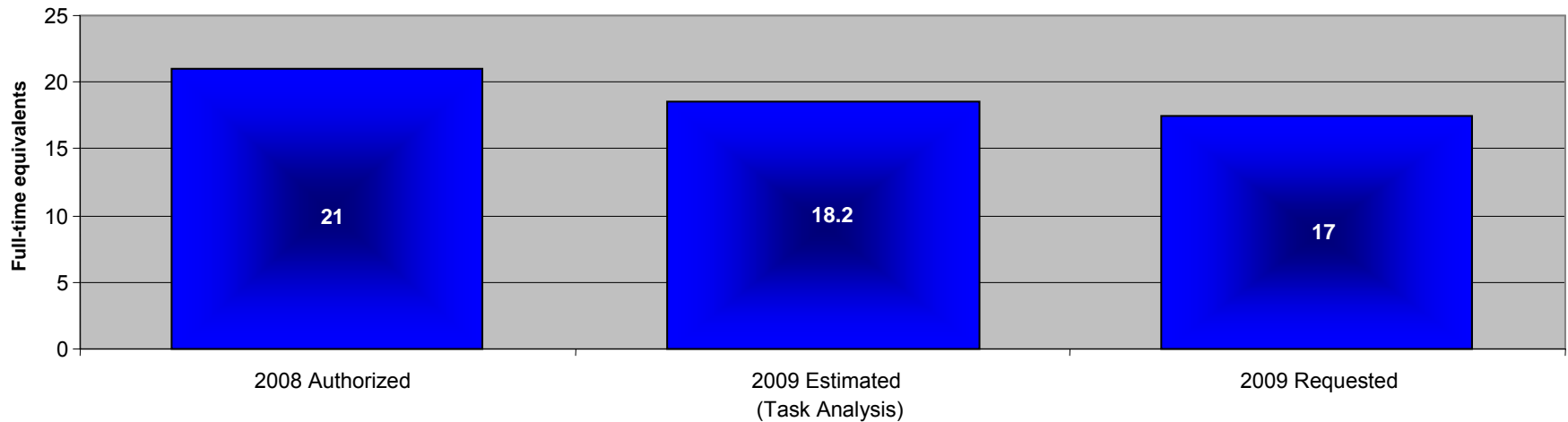
# Dept 550 – Settlements and Billing Allocation by Function



## Key Points

- ❑ **Functional Rules and Technical solution more complicated**
  - ❑ Increases data volume by 10x
  - ❑ DAM timeline very tight – not much time for generating, validating & posting
- ❑ **Greater impact to market participant if calculations incorrect**
  - ❑ All settlement calculations have direct impact on credit – errors could shut participants out of markets
- ❑ **Number of Statements doubles**
- ❑ **Number of Invoices increases 9x**
- ❑ **Frequency of invoices increases to daily**
  - ❑ Processing payments & late fees daily

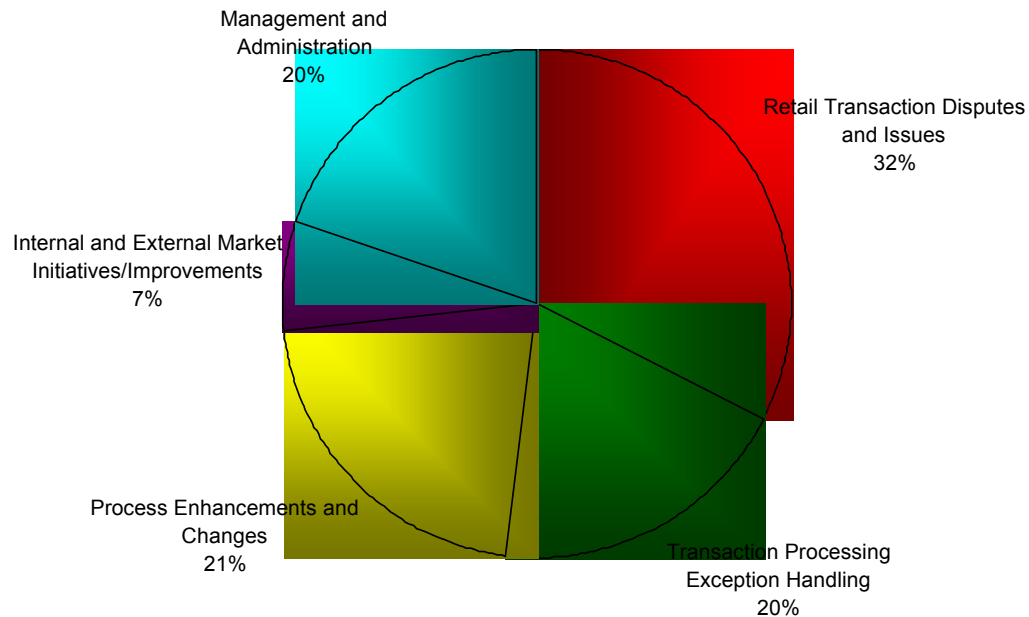
# Dept 570 – Retail Customer Choice Headcount Overview



## **Summary Points**

- ❑ Activities between Zonal and Nodal will remain the same
- ❑ Implementation of the new MarkeTrak system produced efficiencies to reduce staff
- ❑ The task analysis has some bias toward peaking workload for any given day – we will incur overtime for any peaking workload instead of adding full time staff for entire 2009 Estimated

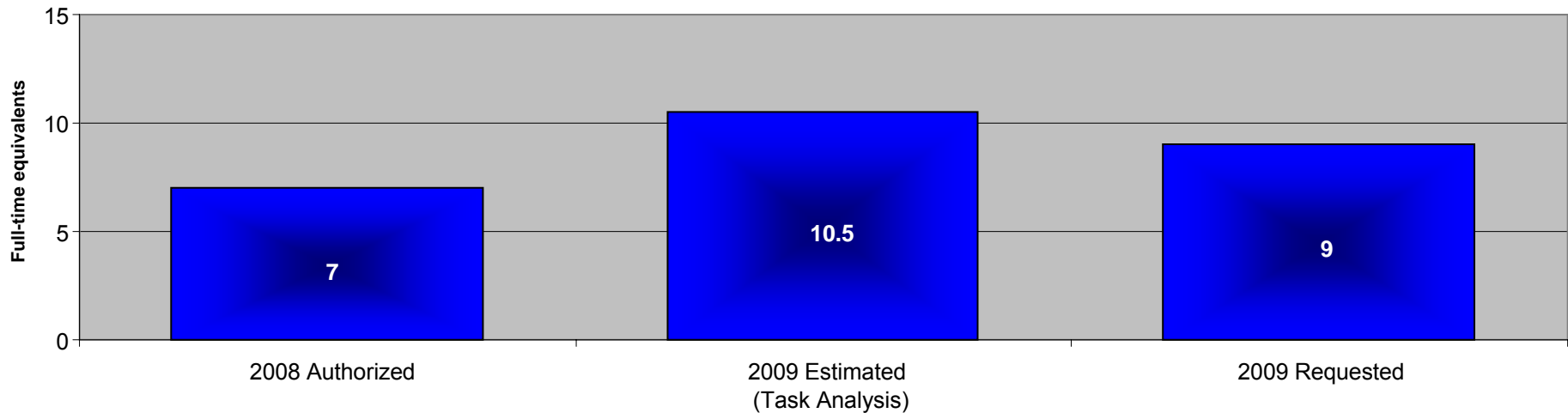
# Dept 570 – Retail Customer Choice Allocation by Function



## Key Points

- ❑ **Switches**
  - ❑ 60,000/month
  - ❑ 12 transactions to complete
- ❑ **Move-Ins**
  - ❑ 9,000/day
  - ❑ 12 transactions to complete
- ❑ ~ 800,000 exceptions worked annually
- ❑ ~170,000 MarkeTrak issues annually

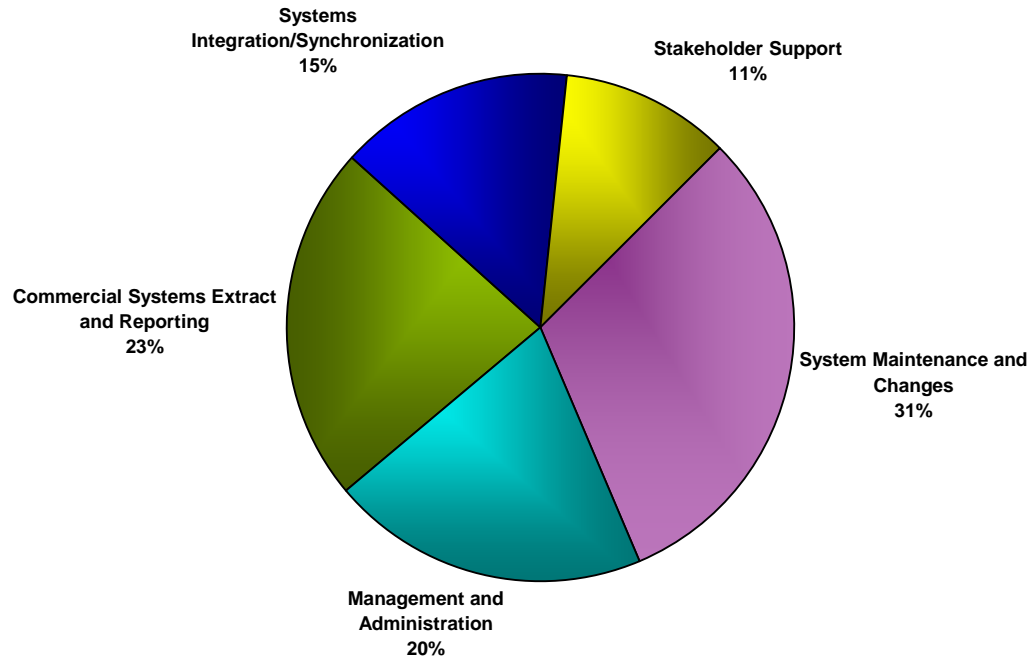
# Dept 585 – Commercial Operations Data Integrity and Integration Headcount Overview



## **Summary Points**

- ❑ Two (2) additional FTEs are requested beyond the 2008 Approved amount due to Nodal
  - ❑ Manage integrity of transition from current Zonal data schema to new Nodal data schema
  - ❑ Increased volume of data with Nodal
  - ❑ Increased number of reports/extracts with Nodal (increase from 43 to 59)
- ❑ The task analysis has some bias toward peaking workload for any given day – we will incur overtime for any peaking workload instead of adding full time staff for entire 2009 Estimated

# Dept 585 – Commercial Operations Data Integrity and Integration Allocation by Function

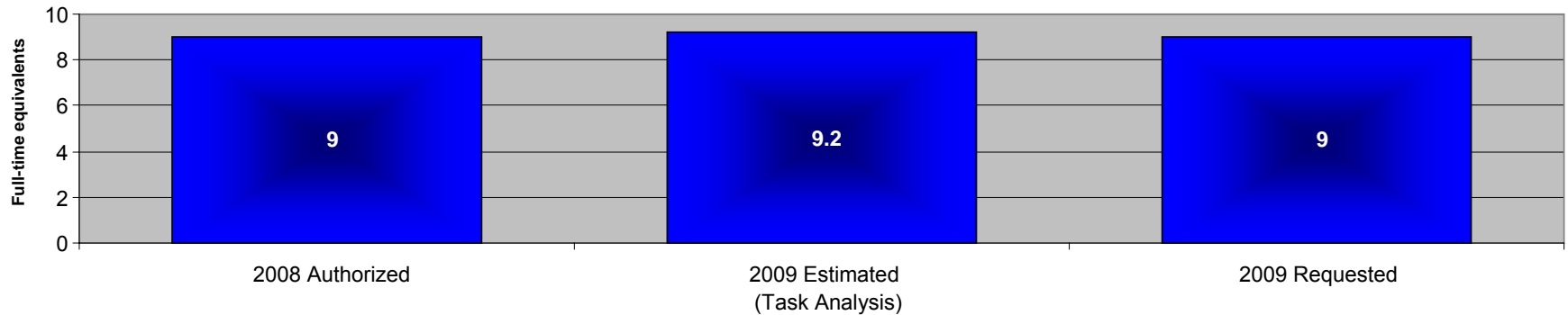


## Key Points

- ❑ **Ensure Commercial Systems Data Integrity**
  - ❑ ~ 20,000 ESIID Service Instance Changes per Day
  - ❑ Replication of Data from Commercial Source Systems to EIS (10x increase in data volume)
- ❑ **Ensure Data Integrity of Commercial Extracts & Reports**
  - ❑ Number increasing from 43 to 59 reports/extracts

# Dept 170 - Market Rules and Stakeholder Support

## Headcount Overview

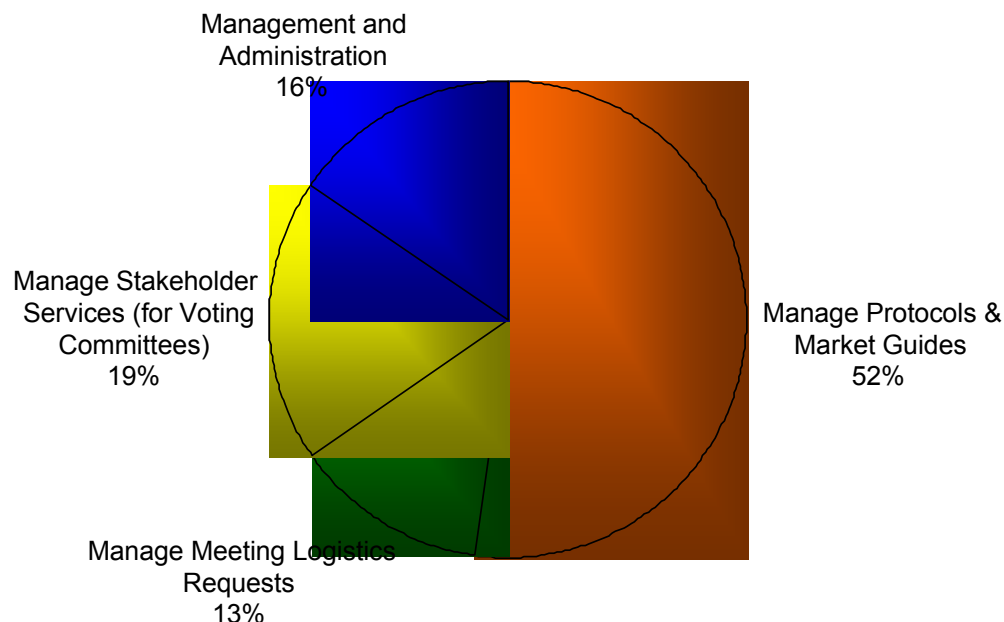


### Summary Points

- ☐ Department 170 added an additional resource in 2008 in order to accommodate a significant increase in protocol related activity
- ☐ We expect this increased level of protocol activity to continue through 2009 and beyond as the market continues to refine the Nodal market rules

# Dept 170 - Market Rules and Stakeholder Support

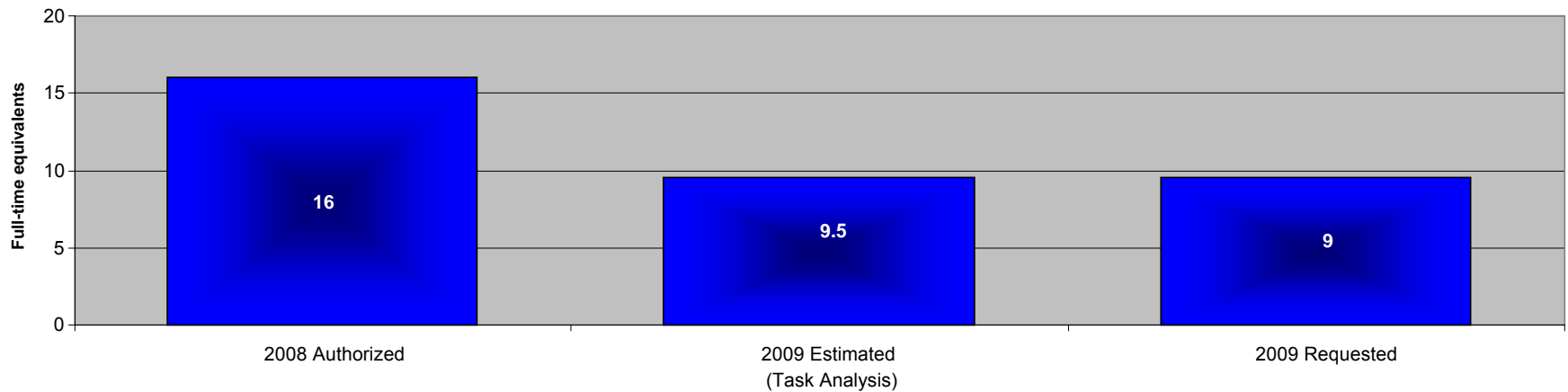
## Allocation by Function



### Key Points

- ❑ 148 new revision requests: 39 (PRRs), 49 Nodal PRRs, one SCR and 60 guide revision requests (to date 2007)
- ❑ 513 recommendation reports to document 2007 subcommittee, TAC, and Board decisions
- ❑ Support TAC and its six subcommittees (130+ days of meetings)
- ❑ Facilitate annual voting for segment representatives to the Board, TAC and its subcommittees
- ❑ 600+ stakeholder meetings (includes facility and conference call coordination, logistics posting, vendor relations)

# Dept 605 - DPO Headcount Overview



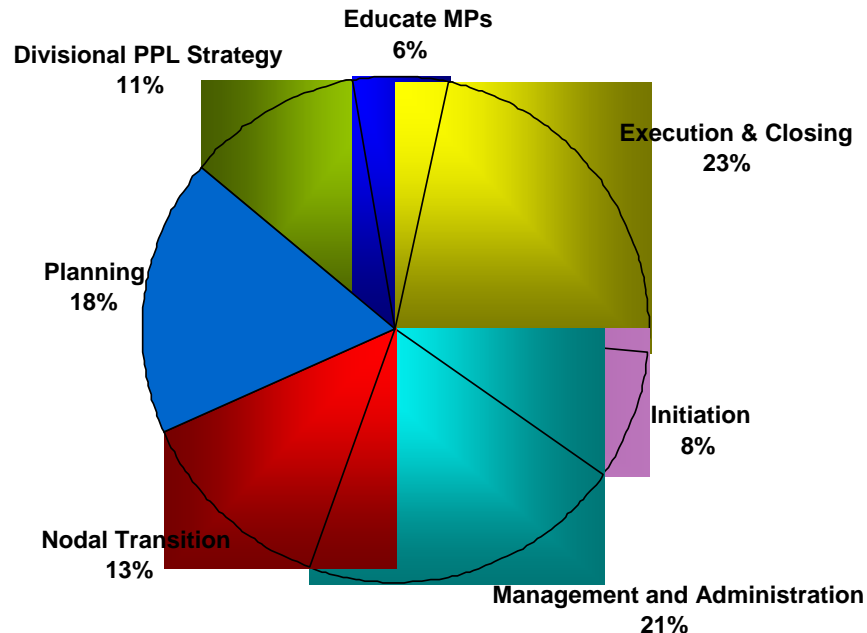
## Summary Points

- ❑ Dept 605 will eliminate seven (7) FTEs due to efficiencies gained through organizational realignments and reduced non-Nodal project work
- ❑ Staffing is set to correspond to the 2009 Program Management plan



# Dept 605 - DPO

## Allocation by Function

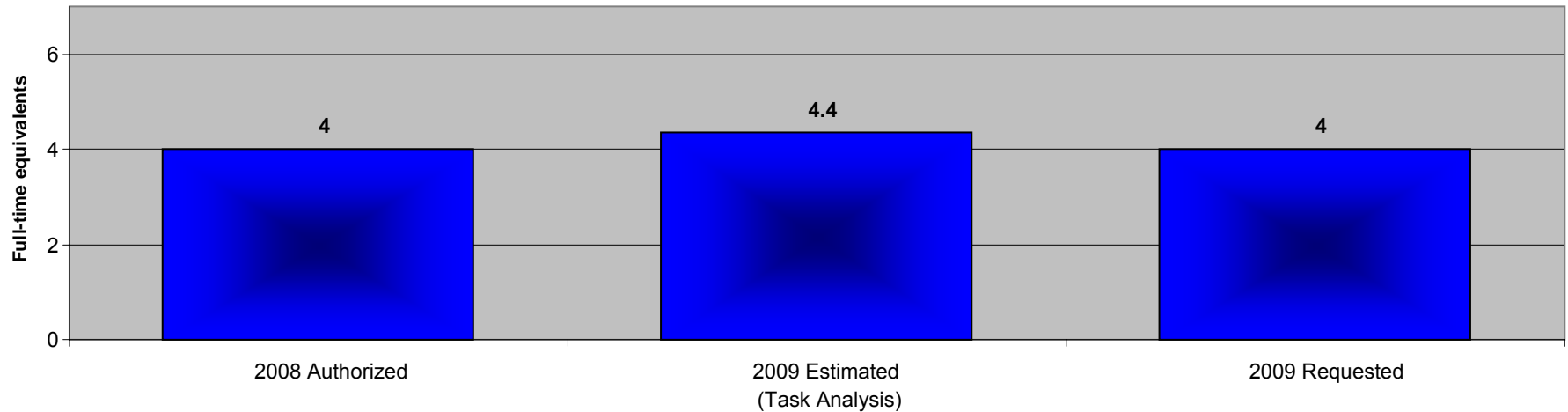


### Key Points

- ☐ Manage portfolios comprised of Commercial Ops and Retail projects.
- ☐ Conduct up to 52 CART meetings
- ☐ Publish weekly reports for all active projects; monthly Divisional and Corporate reports.
- ☐ Update Committees, Sub-Committees and Working Groups weekly
- ☐ Post Nodal projects due to NPRRs replace historical Zonal activity

# Dept 630 - Retail Market Analysis

## Headcount Overview

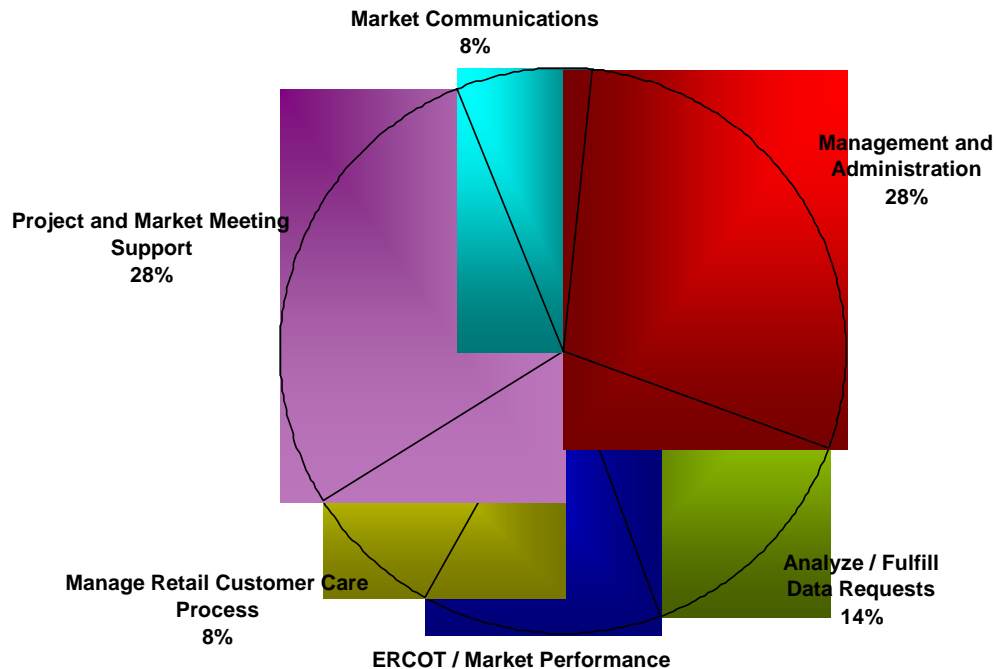


### **Summary Points**

- ☐ Activities between Zonal and Nodal will remain relatively the same
- ☐ Some recent increase in reporting activities due to market participant growth, but not a material volume increase
- ☐ ERCOT will handle any increased workload with overtime. No additional headcount is required.

# Dept 630 - Retail Market Analysis

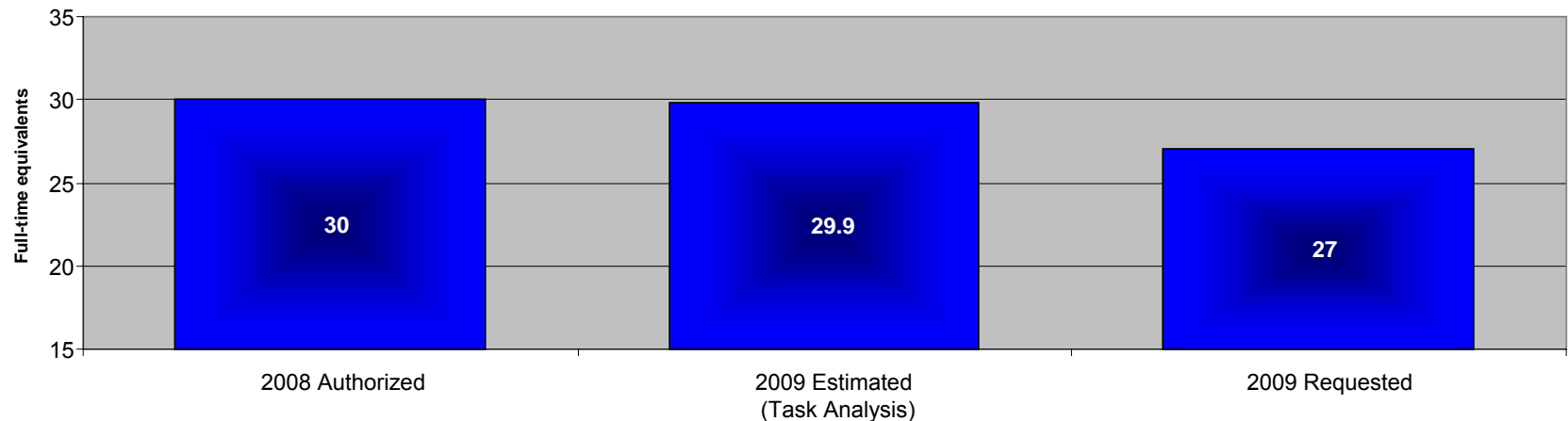
## Allocation by Function



### Key Points

- ❑ Quarterly PUCT Performance Measure Reporting
- ❑ Manage contract performance for Move-In and Switch Notifications processed by vendor, including cancellations returned by call center. 1 million dollar contract
- ❑ Reporting daily, weekly and monthly on initiating transactions to PUCT, BOD, TAC (Subcommittees)
- ❑ Active in new market reporting designs
- ❑ Ad-hoc data requests processed

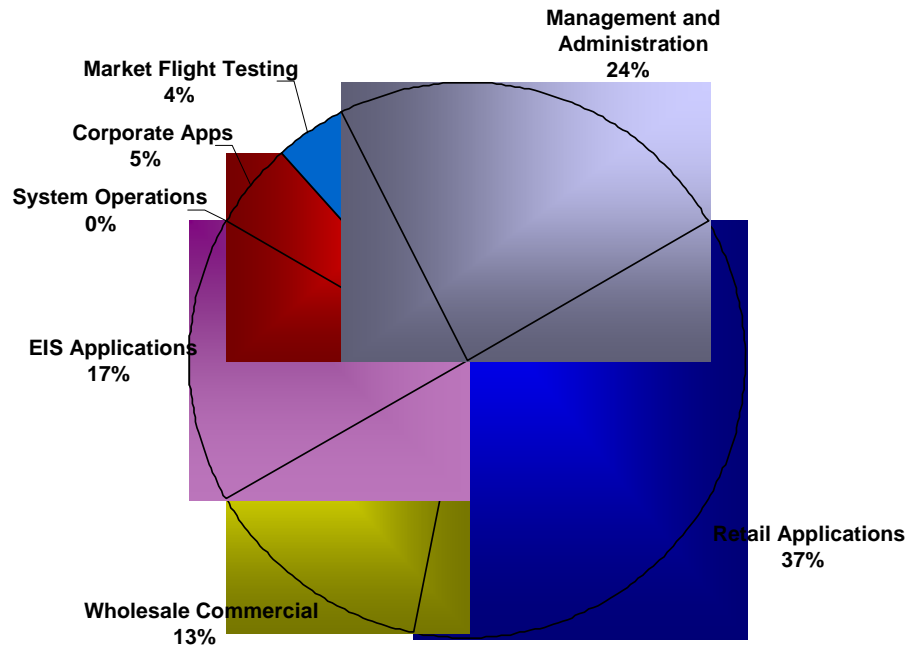
# Dept 640 – Market Operations Testing Headcount Overview



## Summary Points

- ☐ Team size increased at the start of the nodal project in order to handle increased testing in the following areas: CRRs, LMS, MIS, EIS/EDW. In addition to ERCOT personnel, the nodal testing team is augmented by a large number of contractors.
- ☐ Significant increase in testing efforts from Zonal to Nodal in commercial operating systems
  - ☐ SIR testing efforts will increase in 2009 across commercial systems as bug fixes from new nodal functionality emerge
  - ☐ NPRR submittals will produce significant testing efforts post Nodal
  - ☐ Data Extract and Reporting testing efforts will increase testing efforts post Nodal go-live
- ☐ We do anticipate some reduction in testing activity post Nodal go-live and will reduce staffing by three (3) FTEs.

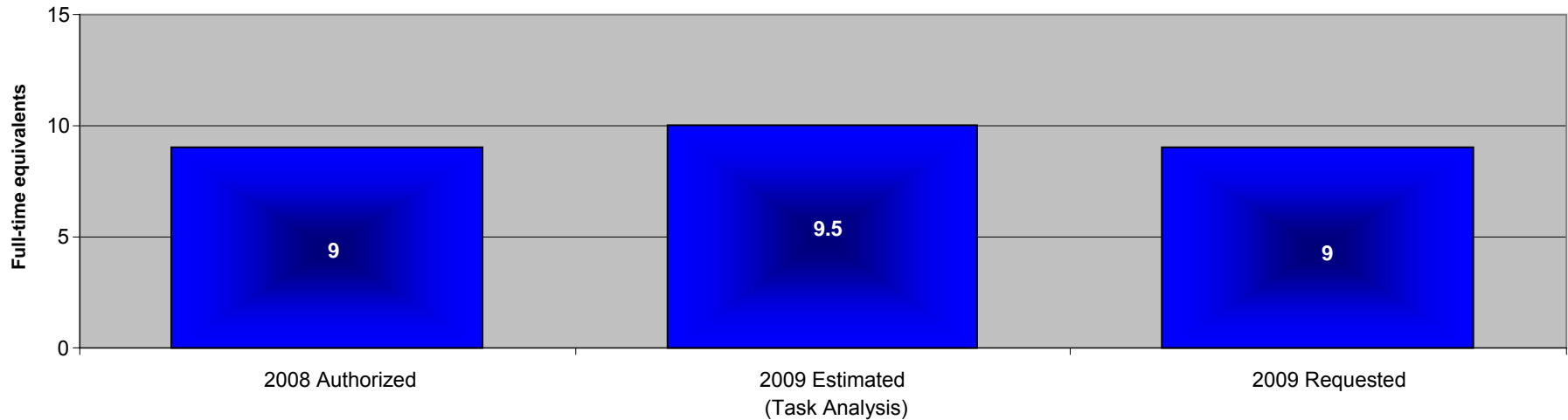
# Dept 640 - Market Operations Testing Allocation by Function



## Key Points

- ❑ NAESB, Paperfree, TIBCO, Siebel, MIS, MarkeTrak, ETS, Retail TML, Package 2 API/ 142 SIRS / 2,100 scripts
- ❑ AppWorx, Lodestar Batch execution, Siebel to Lodestar End Point Services, 100 scripts/ 35 SIRS
- ❑ EIS Testing/ Over 2,600 test scripts
- ❑ Lawson, IAM, Vendor & Contract Mgmt, Collateral Calculation
- ❑ 4 PUCT Mandated Texas SET Flights/ 45,438 Tasks performed
- ❑ 16 new projects tested
- ❑ Dept 640 does not test EMS, MMS, NMMS

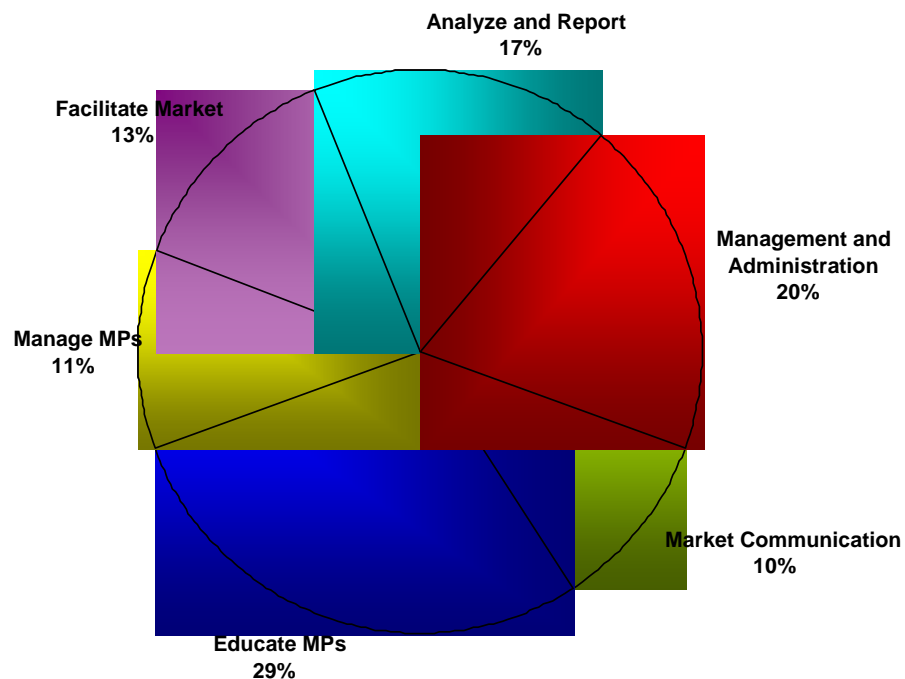
# Dept 650 – Retail Client Services Headcount Overview



## Summary Points

- ☐ We expect to handle with current staffing for any new Competitive Retailers; any additional support due to Nodal is not anticipated to materially affect activity for this group
- ☐ We are not sure how much of the 2009 Estimated will be peaking versus base load activity, so we will not request additional FTEs above the current headcount – we will make up any peak load deficits with overtime

# Dept 650 – Retail Client Services Allocation by Function

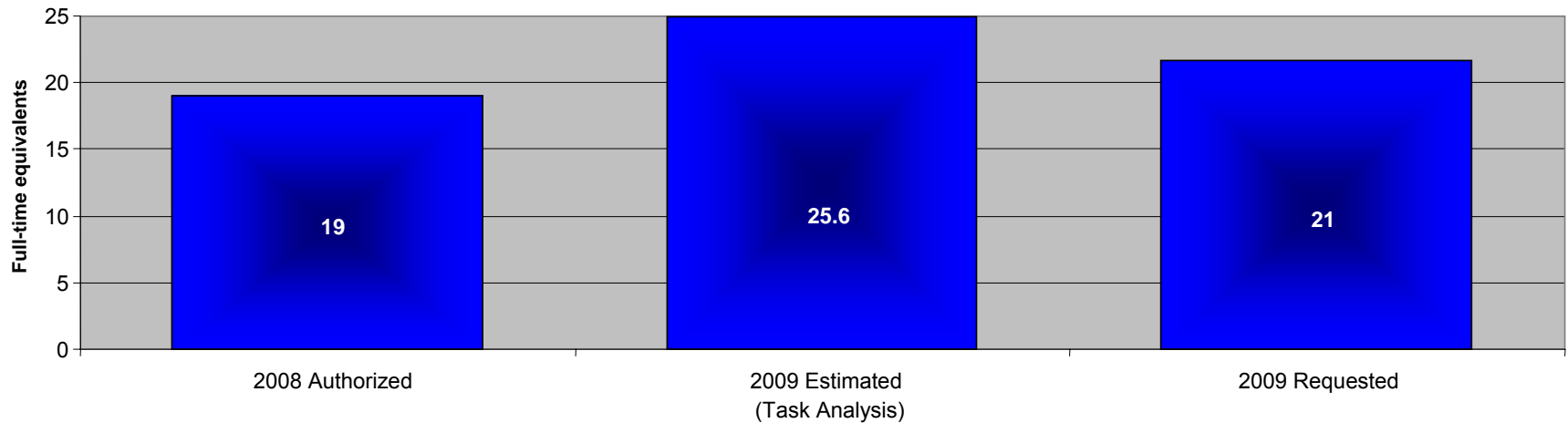


## Key Points

- ❑ Customer Service to 146 listed Market Participants
- ❑ 21 Training/Education sessions, 734 Market Participant trained
- ❑ 2700 Requests/8800 activities logged to CRM
- ❑ 492 Market Notices to MPs
- ❑ 1992 FTE hours to Sub-Committees, Working Groups, and Task-Forces as Meeting Managers/SME
- ❑ Facilitated the Mass Transition process

# Dept 660 – Wholesale Client Services

## Headcount Overview

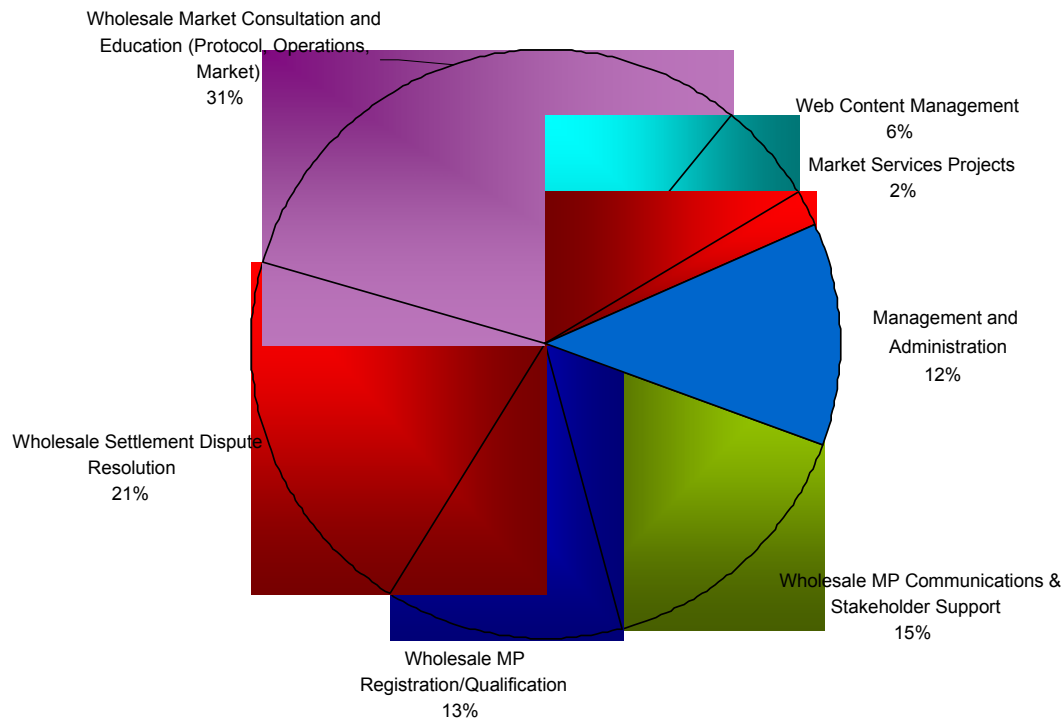


### Summary Points

- ❑ Contract augmentation currently on site to handle Nodal asset registration and New nodal dashboard – no new FTEs requested for this one-time effort
- ❑ Activities will increase due to the increase in the number of QSEs due to Nodal
- ❑ Nodal disputes will increase because they will include new activity for the revised Real Time Market and new RUC, Day-Ahead Market and Congestion Revenue Rights Markets
- ❑ We also anticipate an elevated level of client services activity as a result of new market rules, new MPIM security process new settlement calculations, etc. and the new Network Model activity
- ❑ Additional FTEs and/or contractors are needed to support Wholesale Functions post Nodal go-live – we request two (2) additional FTEs above the 2008 Approved amount



# Dept 660 – Wholesale Client Services Allocation by Function



## Key Points

- ❑ **550 Active MPs including (QSEs, NOIEs, Resource Entities, TDSPs)**
- ❑ **600+ man-days per year of MP Market Education**
- ❑ **350+ Market Notices per year to MPs**
- ❑ **1800+ Settlements Disputes processed per year**
- ❑ **450+ Core Service Requests Provided**
- ❑ **800+ Registration Entries and Changes**

**DIRECT TESTIMONY OF**

**RONALD J. HINSLEY**

**VICE-PRESIDENT AND CHIEF INFORMATION OFFICER**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF RONALD J. HINSLEY**

2                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

3   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4   A.     My name is Ronald J. Hinsley. My business address is 7620 Metro Center Drive,  
5           Austin, Texas 78744.

6  
7   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

8   A.     I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
9           Vice-President and Chief Information Officer ("CIO"). I joined ERCOT in my  
10          present position in April 2005.

11  
12   **Q.     PLEASE    DESCRIBE   YOUR   RESPONSIBILITIES   AS   CHIEF**  
13          **INFORMATION OFFICER.**

14   A.     I am responsible for both the operations and strategic direction of ERCOT's  
15           Information Technology ("IT") Division. My key responsibilities include  
16           ensuring that ERCOT has the people, processes, technology and budget in place  
17           for its computer systems to function to the standards required by the ERCOT  
18           Protocols, including the Nodal Protocols. My administrative responsibilities  
19           include budget development, personnel assessments, salary administration,  
20           reporting activities, project sponsorship, approval of certain spending, and  
21           ensuring the department is prepared for any new initiatives. Long-term  
22           responsibilities include implementation of the division strategy, business and  
23           technology planning, capacity planning, and disaster recovery capabilities for key  
24           IT systems.

25  
26   **Q.     PLEASE    OUTLINE   YOUR   EDUCATIONAL   AND   PROFESSIONAL**  
27          **QUALIFICATIONS.**

28   A.     I have a Bachelor of Arts degree in communications and management information  
29           systems from the College of Saint Mary in Omaha, Nebraska. Prior to joining  
30           ERCOT, I held various Information Technology leadership positions for Aquila,

1 Inc., an international retailer and wholesaler of natural gas, over my fourteen  
2 years with that company. My positions included CIO with United Energy, an  
3 Aquila holding in Melbourne, Australia, and Vice-President of Information  
4 Technology with the firm's U.S. entity.  
5

6 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
7 **COMMISSION OF TEXAS?**

8 A. Yes, I have. I testified on behalf of ERCOT in Docket No. 31824 (ERCOT's  
9 2006 System Administration Fee case), and in Docket Nos. 32686 and 35428  
10 (ERCOT's requests for approval of the Nodal market implementation surcharge).  
11

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 A. My testimony supports ERCOT's request for a modified System Administration  
14 Fee ("SAF"). My testimony focuses on the funding requirements of the  
15 Information Technology division, the organization within ERCOT for which I am  
16 responsible. I provide an overview of the Information Technology ("IT")  
17 organization and of the changing demands facing the IT division as ERCOT  
18 begins Nodal market operations. In addition, I discuss the results of the "deep  
19 dive" analysis supporting the IT division's headcount in the 2009 budget  
20 approved by the ERCOT Board of Directors. I also address the justification for  
21 the expenses in the IT division budget not associated directly with its personnel  
22 headcount, including investments in technology necessary for ERCOT to deliver  
23 on the tasks assigned to it in the Nodal market framework.  
24

25 **I. OVERVIEW OF THE INFORMATION TECHNOLOGY DIVISION**  
26

27 **Q. PLEASE EXPLAIN HOW YOU ARE FAMILIAR WITH THE**  
28 **OPERATIONS, ACTIVITIES AND BUDGET REQUESTS OF THE**  
29 **INFORMATION TECHNOLOGY DIVISION.**

30 A. As the Vice President and CIO, I am very familiar with the operations, activities  
31 and budget requests of the entire IT division. I have worked in the division as a

1 senior manager since 2005. I also have a firm understanding of the overall  
2 ERCOT market and the technology needs of a successful competitive electric  
3 market.  
4

5 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE**  
6 **INFORMATION TECHNOLOGY DIVISION OF ERCOT.**

7 A. The division is responsible for the development, testing, operation, and  
8 maintenance of ERCOT's increasingly sophisticated IT systems. The department  
9 has grown along with the growing use of information technology as a central tool  
10 in all aspects of the Texas electric market. As the Commission is aware, the  
11 transition from a Zonal to a Nodal market in Texas is made possible in large part  
12 by the existence of information technology software that is capable of offering  
13 tremendous flexibility in the collection and management of huge volumes of data  
14 and to deliver information in a timely manner to the Market Participants.  
15 Moreover, the development of new systems and the use of existing "best in class"  
16 solutions create the need for often complex integration efforts to be sure all the  
17 solutions can talk to each other. Once the systems are up and running, it is still  
18 necessary for IT professionals to work on applications development to create  
19 functionality, as necessitated by the market, and fix bugs in existing systems.  
20 These efforts are all in addition to maintaining hardware and responding to  
21 ERCOT and Market Participant problems and questions.  
22

23 **Q. WHAT SPECIFIC TYPES OF TASKS DO IT DIVISION PERSONNEL**  
24 **PERFORM?**

25 A. Generally, the tasks performed by the IT division can be divided into the  
26 functional categories reflected in our organizational structure:

27 Infrastructure

- 28 (1) Configuration, management, and maintenance of over 1,300 servers.  
29 (2) Wide Area Network ("WAN") design and maintenance. Besides internal  
30 ERCOT uses, the WAN is used at approximately 80 Market Participant  
31 sites.

- (3) Maintain Storage Area Network (“SAN”) environment and physical data storage needs; plan for storage additions before they become emergencies. ERCOT now houses more than 900 trillion bytes of storage, a number that has grown significantly since the Zonal market was implemented and is expected to continue growing.
- (4) Manage ERCOT’s use of Microsoft Windows®, IBM AIX, HP Unix, HP Tru64 and Linux software environments.
- (5) Administer ERCOT’s email and voice telephony systems.
- (6) Manage ERCOT’s computer firewall.
- (7) Manage more than 1,000 desktop and laptops.

#### IT Operations

- (1) Operate the ERCOT Help Desk, which handles calls from both Market Participants and ERCOT employees and works trouble tickets on problems.
- (2) Operate the Energy Management and Market System (“EMMS”) production systems, and trouble-shoot application problems.
- (3) Planning for, and executing if necessary, ERCOT’s site failover procedures.
- (4) Move new software releases into production.
- (5) Execute the wholesale market batch processing cycle.
- (6) Manage the execution of the retail market processes and related applications.
- (7) Monitor the entire ERCOT computer environment on a 24X7 basis.
- (8) Oversee the operations of the automated programs that integrate all Nodal and Retail applications.
- (9)

#### Enterprise Architecture

- (1) Technology planning and sizing, including projections for Data Center needs (*e.g.*, power, cooling, and floor spacing projections).

- (2) Development of technology roadmaps and coordination of data integration plans.
- (3) Creation of user interfaces and strategy for improving user experience with ERCOT tools.
- (4) Advise ERCOT leadership regarding software and hardware choices, and architectural design to accommodate equipment.
- (5) Develop disaster recovery plans and oversee testing of the plans.
- (6) Ensure computing standards are developed and maintained.
- (7) Provide expert technology assistance for challenging technology issues.

#### Application Services

- (1) Energy Management system (“EMS”) and Market Management System (“MMS”) application development, support, and vendor management.
- (2) Enterprise software integration, ERCOT internal and external systems.
- (3) Enterprise Data Warehouse and data extract request management.
- (4) Application support of Commercial systems (*e.g.*, Lodestar, PaperFree, MarkeTrak, NAESB).
- (5) Manage corporate applications, including Lawson, Microsoft Project Server, ROME for Credit Monitoring and several tools for management of the ERCOT operations environment.
- (6) Applications and production support for the database development.
- (7) Manage the programming aspects of the automated integration applications for all Nodal and Retail systems.

#### IT Business & Customer Services

- (1) Manage Service Level Agreements with the market and internal ERCOT divisions.
- (2) Develop and maintain the IT service catalog, IT service costing and benchmarking documentation.
- (3) Manage hardware and software maintenance and support contracts and software license compliance.

- 1 (4) Develop and maintain IT budgets and financial forecasting.  
2 (5) Manage all IT business planning activities.  
3 (6) Represent ERCOT IT on technology matters at appropriate stakeholder  
4 forums.  
5

6 **Q. PLEASE DESCRIBE RECENT DEVELOPMENTS IN THE IT DIVISION**  
7 **ORGANIZATION.**

8 A. The IT division has experienced rapid growth as the systems necessary for the  
9 Nodal market near completion. As the IT division has grown, we have placed a  
10 strong emphasis on growing “smart.” This has included selection and  
11 implementation of an explicit strategy for enterprise-wide technology  
12 architecture, increased focus on the professionalism and customer-focus of our IT  
13 professionals, and the organizational development required to operate the mature  
14 IT division ERCOT requires long-term.  
15

16 **Q. WHAT IS THE SIGNIFICANCE OF THE DIVISION’S ENTERPRISE-**  
17 **WIDE TECHNOLOGY ARCHITECTURE DECISIONS?**

18 A. One of the IT division’s key strategic objectives is to align IT infrastructure, data,  
19 applications, processes, and people to ERCOT’s business strategy and our  
20 customers’ needs. Organizations that do not develop a consistent technology  
21 architecture are extremely vulnerable to many types of serious problems: systems  
22 that are good for individual purposes are not integrated; development teams take  
23 off on different paths in creating applications that must work in sync with other  
24 enterprise applications; decisions are driven by what vendors offer rather than  
25 what meets the overarching enterprise technology strategy. These pitfalls would  
26 have been easy for ERCOT to fall into given the enormous scope and complexity  
27 of the systems being developed for the Nodal market. Through the Enterprise  
28 Architecture team, ERCOT has developed a “Systems Oriented Architecture”  
29 approach, which is designed to efficiently deliver business solutions using  
30 technology. The focus remains on the needs of the business while ensuring  
31 systems work with each other and can deliver information quickly and seamlessly



1 to solve problems faced by the business. The Enterprise Architecture team  
2 ensures that technology is chosen that will help keep costs down during the  
3 project phase as well as during the operations phase. This holistic view helps by  
4 avoiding “silos” of technology and one-off solutions that can prove costly in the  
5 long run. Without the Enterprise Architecture team, ERCOT would not be in a  
6 position to use the more sophisticated planning tools for Nodal, such as Rational  
7 Unified Processing (“RUP”) and Systems of Systems Architecture (“SoSA”).  
8

9 **Q. PLEASE DESCRIBE THE RUP AND SoSA PLANNING TOOLS.**

10 A. ERCOT implemented the Rational Unified Process (“RUP”) and System of  
11 Systems Architecture (“SoSA”) approach to software development as part of the  
12 Nodal Program. The RUP is an [iterative software development process](#) created  
13 by the [Rational Software](#) Corporation which, in 2002, became a division of [IBM](#).  
14 The RUP is not a single process, but rather an adaptable process [framework](#),  
15 intended to be tailored by software development teams who select the elements of  
16 the process appropriate for their needs. The choice to use a RUP-based  
17 development framework was a major milestone for the Nodal Program. ERCOT  
18 customized its application using RUP in a way that accounts for the need to work  
19 with commercial off-the-shelf software (“COTS”) where possible, and for the fact  
20 that ERCOT’s software vendors (all of whom have a role in integration) vary in  
21 their usage of and experience with RUP. ERCOT’s RUP-based framework,  
22 called “powerUP,” is documented on a website used by Nodal staff and vendors.  
23 SoSA is a formal systems engineering approach to modeling a complete solution  
24 to a complex task. ERCOT selected SoSA because of its strengths in formally  
25 modeling large and complex systems using the industry standard Unified Markup  
26 Language (“UML”) as its base framework. SoSA provides an enterprise-wide  
27 view of the Nodal solution while being compatible with the RUP design artifacts  
28 produced by the individual projects. This allows the program to compare the  
29 designs produced by the individual projects with the overall design developed by  
30 the program using the same UML modeling approach.

1 From a user perspective, SoSA is a technique for modeling a complex system that  
2 is itself comprised of complex systems, by modeling customers of Nodal and how  
3 they expect to operate in the Nodal markets. The key benefits of the SoSA  
4 approach are:

- 5 (1) The use cases, requirements and interfaces defined by the projects can be  
6 validated against Enterprise Level Use Cases. (Use cases are the  
7 identification of key business processes which are used to understand the  
8 role of the business and to help manage scope of the large project.)  
9
- 10 (2) Application interfaces can be clearly distinguished and described in terms  
11 of attributes and operations.  
12
- 13 (3) The System of Systems model can be used to derive end-to-end test cases.  
14
- 15 (4) The Enterprise Level architecture provides ERCOT with a context that can  
16 ensure complete coverage of the Protocols by each individual system  
17 component.  
18

19 ERCOT's utilization of RUP and SoSA methodologies is extremely important to  
20 achieving design and assurance objectives for all of ERCOT's systems. This will  
21 maximize the efficiency of ERCOT's use of IT resources for the long term.  
22

23 **Q. WHAT WERE THE STEPS THE DIVISION TOOK REGARDING**  
24 **"CUSTOMER-FOCUS" AND ORGANIZATIONAL DEVELOPMENT?**

25 A. The IT division's strategic vision included two goals that both relate to creation of  
26 a mature, professional IT organization. These strategic goals were articulated in  
27 our division's "deep dive" documentation:

28 Business Within a Business: Change the focus of IT professionals to the  
29 level of external providers, who consider all they deal with as customers.  
30 ERCOT should fully understand what it receives for its IT dollars. IT  
31 must understand customer expectations through the use of Service Level  
32 Agreements and an active account management process.  
33

34 Operational Excellence: Raise the level of IT system delivery to meet or  
35 exceed customer expectations. Provide a level of service that makes  
36 everyone feel as if they are the most important customer of IT.  
37

38 To execute our "business within a business" strategy, IT staff has worked to  
39 improve relationships with external stakeholders. ERCOT IT formalized its first

1 service-level agreement (“SLA”) with Market Participants for the ERCOT retail  
2 transaction processing platform in 2006. Building upon the success of this  
3 agreement, and working with Market Participants, the scope of the SLAs was  
4 expanded in 2007 to include two additional key retail market participant tools,  
5 Texas Market Link and MarkeTrak, a tool used by the market to follow issues  
6 through resolution. The systems and applications required to run the Nodal market  
7 will have service levels negotiated with market participants before the systems  
8 enter a production capacity. IT staff also created an IT Service Catalog, and  
9 initiated service cost and benchmarking exercises to provide additional  
10 information sources to Market Participants and stakeholders.

11 To advance our goal of “operational excellence,” IT Operations staff underwent  
12 Information Technology Infrastructure Library (“ITIL”) training, and the division  
13 implemented infrastructure management tools, a Configuration Management  
14 Database (“CMDB”), improved monitoring tools, and new code repository tools  
15 to improve quality. As the technology demands of the Nodal market became  
16 clear, ERCOT invested in technology management tools to automate best-practice  
17 methodologies. Migration to best-practice incident and problem management  
18 tools that enable staff to resolve problems more quickly were completed. These  
19 tools, complemented by new systems-monitoring software and staff training to  
20 utilize the new tools, will ensure that the IT staff has the information needed to  
21 support ERCOT's mission.

22  
23 **Q. WHAT STEPS HAS THE IT DIVISION TAKEN TO PREPARE FOR**  
24 **NODAL MARKET OPERATIONS?**

25 **A.** The transition to the Nodal market has already had a dramatic impact on the IT  
26 division. Most importantly, the IT division is ultimately responsible for  
27 delivering Nodal and the Nodal Program management reports directly to me as  
28 CIO. The Nodal transition continues to be an enormous undertaking that has  
29 ramifications for the present and future of the IT division. For example, as  
30 discussed previously, the demands of Nodal operations necessitated more formal  
31 determinations regarding ERCOT's IT architecture and the development of

1 strategies that would facilitate the integration of IT professionals into many of the  
2 new efforts required in a Nodal market. As part of the Nodal Program, ERCOT  
3 made the large investments in hardware and software needed to meet the  
4 technology demands of the Nodal market, while also supporting continued growth  
5 in the Zonal market in the ERCOT region. In preparation for the Nodal market,  
6 ERCOT IT completed a major migration of enterprise class servers and also  
7 increased the number of deployed servers by 109 percent. This migration, in  
8 conjunction with a successful server virtualization initiative, allowed ERCOT to  
9 deploy the quantity of systems required to launch the Nodal market while  
10 temporarily extending the remaining Data Center footprint. ERCOT also  
11 continued to add the needed data storage environment to support this growth and  
12 solidify the reliability of the operating environment.

13 The high demands of the Nodal project have required a higher level of support  
14 from the ERCOT staff. For example, the Early Delivery System (“EDS”) concept  
15 was developed to create a means for exposure and testing of newly developed IT  
16 systems by the market. The IT staff manages the EDS environments through a  
17 release management strategy, and must spend countless overtime hours at nights  
18 and on weekends to migrate new code and databases into production. With the  
19 enormity of the Nodal program, I anticipate this level of effort to continue well  
20 beyond the initial go-live date with new system updates and post-Nodal system  
21 changes.

22  
23 **Q. WHAT NEW RESPONSIBILITIES WILL THE IT DIVISION HAVE**  
24 **AFTER THE NODAL MARKET GOES LIVE?**

25 A. Nodal market systems rely on a diverse and complex suite of software  
26 applications. As with any organization, when new IT applications are added,  
27 there need to be resources available (either in-house or outsourced) who  
28 understand the applications and can respond quickly to problems that arise with  
29 them. When the number of applications increases, the organization needs  
30 additional resources available to handle the problems that may arise with all those  
31 applications.

1 In the Nodal context, the need for technology support is accentuated by the fact  
2 that many of the applications are custom-built to meet the demands of the ERCOT  
3 Nodal Protocols, and will be running for the first time in the Nodal market. We  
4 have made every effort to ensure that the new applications run as designed and  
5 intended. For example, no software applications go forward in the Nodal  
6 Program if they experience “Severity 1” or “Severity 2” defects in pre-Factory  
7 Acceptance Testing (“pre-FAT”) phase of development. Until the 168-hour test is  
8 complete and has been evaluated later this year, however, we will not know for  
9 certain which parts of the Nodal systems require the most ongoing attention.  
10 Moreover, no matter how well the system runs, it is inevitable in a software  
11 development project this large that there will be some need to fix “bugs” that  
12 appear once the applications are running and battle-tested by the market. Even  
13 after the initial shakedown of the Nodal systems, there will be an ongoing need  
14 for IT support of the technology that enables the Nodal market to run in the  
15 sophisticated and efficient manner that Market Participants expect while also  
16 being able to address future changes requested via NPRRs.

17  
18 **Q. WHAT ARE SOME EXAMPLES OF THE NEW SOFTWARE**  
19 **APPLICATIONS THAT THE IT DIVISION WILL SUPPORT IN THE**  
20 **NODAL MARKET?**

21 A. There are many new applications that simply did not exist in the Zonal market.  
22 There are others that changed Zonal applications to suit the Nodal market design.  
23 The new applications include:

24 (1) Market Management System (“MMS”) developed by ABB. The MMS  
25 includes features necessary to fulfill the Day-Ahead Market, real time energy  
26 market and Reliability Unit Commitment (“RUC”) aspects of the Nodal  
27 Protocols.

28 (2) Supplementary Ancillary Services market applications.

29 (3) Outage scheduler developed by ABB.

30 (4) Network Model Management System (“NMMS”) developed by Siemens.

31 (5) Wind forecast tool from Truwind.

- (6) Wind Generation interface.
- (7) Resource limit calculator.
- (8) Credit Monitoring software developed by ROME.
- (9) Congestion Revenue Rights (“CRR”) system developed by Nexant.
- (10) Base point calculations applications for Locational Marginal Pricing (“LMP”).
- (11) Applications necessary for market operations functions such as settlements and invoices for Day-Ahead Market, Real-time, and RUC delivered by LodeStar.
- (12) Market Readiness Advisor.
- (13) New Market Information Services (“MIS”) portal (the primary interface for Market Participants into ERCOT systems).

A comprehensive listing of all the new Nodal applications is included in the IT division’s “deep dive” materials, which are attached to my testimony as Exhibit RH-1.

**Q. ARE THERE OTHER NEW DEMANDS ASSOCIATED WITH THE NODAL ENVIRONMENT?**

A. Yes. Some of the new tasks are more easily quantifiable than others. For example, the IT division has budgeted for the hardware (including data storage) necessary to meet many new infrastructure demands. For example, ERCOT must increase the number of servers it has in service to accommodate the many new applications. Each application requires parallel servers for development, pre-functional testing, and integrated testing. The new data required to execute real-time processing, load forecasting, outage scheduling, network modeling, and a wide array of data needs for efficient market operation requires increased data storage capacity. In addition, defined subsets of production data are replicated for data warehouse applications used by ERCOT, Market Participants, the Commission, and the IMM for various post-real time activities. Post-production data is stored for dispute resolution and historical archiving. In all, ERCOT’s

1 data storage needs have grown from 6 terabytes in 2001 to over 900 today. That  
2 number is expected to grow to over 1,000 terabytes next year.

3 What is less quantifiable is the level of support the users of Nodal systems will  
4 require from ERCOT IT personnel. Until the market is operational, ERCOT  
5 cannot accurately predict where potential glitches may occur, or if certain users  
6 may not be adequately trained to efficiently use the systems. We expect the early  
7 stages of the Nodal market to generate unusually large demands for technical  
8 support. If ERCOT does not have sufficient staffing to handle them, it could  
9 seriously hinder the early months of Nodal operations.

10  
11 **Q. ARE THERE OTHER DEVELOPMENTS EXPECTED THAT AFFECT**  
12 **THE RESPONSIBILITIES OF THE IT DIVISION?**

13 A. Yes, while Nodal is the key driver of new IT costs, there are other projects that  
14 affect the divisional budget. These are explained in more detail in my discussion  
15 of departmental headcounts and in the “deep dive” materials in Exhibit RH-1.  
16 They include necessary improvements to the Identity and Access Management  
17 System used to authorize users of the ERCOT market systems, improvements to  
18 systems for the ERCOT internal IT help desk and trouble ticketing process, new  
19 budget management software for ERCOT finance, and the outsourcing of the  
20 infrastructure hosting for the Lawson accounting management system. Nearly  
21 every new project that goes into production as listed on the ERCOT Project  
22 Priority List (“PPL”) will likely require some level of IT support after it goes live.  
23 The cumulative affect of these projects lead to increased service pressure which in  
24 turn leads to the need for more IT staffing. The IT department attempts to do as  
25 much as possible with its existing headcount, but the workload requirements  
26 demand additional staffing. The IT organization understands that the ERCOT fee  
27 is ultimately paid by the consumer and we want to do everything necessary to  
28 keep that fee as low as possible.

1                                   **III.     INFORMATION TECHNOLOGY DIVISION**  
2                                   **FUNCTIONS AND HEADCOUNTS**  
3

4   **Q.     HOW DID THE INFORMATION TECHNOLOGY DIVISION DEVELOP**  
5   **ITS PROPOSED HEADCOUNT FOR 2009?**

6   A.     As other witnesses describe in more detail, the entire ERCOT organization  
7           collectively performed an internal review of all functions and positions as part of  
8           development of the 2009 budget. The “deep dive” process called on every  
9           department within each division to establish the need for all staff positions. This  
10          process called on all ERCOT managers to demonstrate through a “bottoms up”  
11          process that their staffing levels: (a) reflect all possible efficiencies going forward  
12          rather than simply repeating what was done in the past; and (b) are aligned with  
13          the new activities ERCOT is undertaking as part of the transition to the Nodal  
14          System.

15         The IT division conducted a department-by-department functional task analysis,  
16         which provided the basis for the headcount requests included in the Board-  
17         approved 2009 budget. Each department started its analysis from a zero  
18         headcount and documented its requested headcount based on the tasks that are  
19         within its designated responsibilities. Due to the many changes in process in the  
20         IT division, our staff reviewed and revised our deep dive materials and estimated  
21         headcount numerous times during the budget planning process. In each  
22         department, IT staff and management balanced the need to be realistic about how  
23         to support new and existing functions with a cautious approach to adding to the  
24         financial commitments required by ERCOT and ultimately paid for by consumers.  
25         Each department’s task analysis was analyzed by division management. Division  
26         management worked with departmental staff as well as ERCOT’s Finance  
27         organization to develop specific line items in the IT division budget request. The  
28         deep dive analyses for the IT division are attached to my testimony as Exhibit  
29         RH-1.  
30



1     **Q.     HOW WOULD YOU SUMMARIZE THE FINDINGS OF THE “DEEP**  
2     **DIVE” ANALYSIS FOR THE INFORMATION TECHNOLOGY**  
3     **DIVISION?**

4     A.     As I stated in response to previous questions, we expect the workload of the  
5     division to increase significantly with the implementation of the Nodal market. It  
6     is clear to us that the IT division will not be able to carry out its duties to operate a  
7     reliable system in 2009 according to the Nodal Protocols at pre-Nodal staffing  
8     levels. Our department-by-department deep dive analysis indicated a need for 24  
9     additional staff members above the number of Full-Time Equivalents (“FTEs”)  
10    authorized by the Board in ERCOT’s 2008 budget. I have examined the  
11    departmental analyses that reached this conclusion and believe that each is  
12    reasonable based on the anticipated increases in workload in 2009.

13

14    **Q.     PLEASE IDENTIFY THE DEPARTMENTS WITHIN THE IT DIVISION.**

15    A.     The IT division is divided into five groups: (1) Infrastructure; (2) IT Operations;  
16    (3) IT Business & Customer Services; (4) Enterprise Architecture; and (5)  
17    Application Services. Then IT division organizational chart is included in Exhibit  
18    RH-1

19

20    **Q.     WHAT STEPS WILL THE IT DIVISION TAKE TO MAXIMIZE LABOR**  
21    **PRODUCTIVITY IN 2009?**

22    A.     Division management will monitor the activities and productivity of IT division  
23    staff with special attention in 2009, as the division assesses what its “steady state”  
24    staffing needs are going to be in the Nodal market environment. As department  
25    staff repeatedly told us in the deep dive process, staffing needs for the long-term  
26    will depend on how various aspects of the Nodal market work in the real world.  
27    Operational experience will provide the necessary data to determine how IT  
28    personnel resources can be deployed most efficiently in the future. If some  
29    expected work for 2009 does not materialize, management will reevaluate the  
30    need to replace personnel as a result of natural turnover. As is ERCOT  
31    management’s practice in all divisions, if particular employees are not fully

utilized at any time, management will ensure the maximization of the employee's contribution by assigning additional work to the employee, retooling and reassigning the employee or terminating the employee, if we cannot identify any required work for him or her of equal or greater value.

**Q. WHAT ARE THE SPECIFIC HEADCOUNT REQUESTS FOR EACH DEPARTMENT WITHIN THE IT DIVISION?**

A. The following chart was prepared as part of the division's deep dive analysis. It compares the departmental FTE numbers authorized by the Board in 2008 to those approved in the 2009 budget by the ERCOT Board of Directors:

**Table 1: Information Technology  
Summary of Staffing**

Department	2008 Authorized	2009 Requested
Nodal Market Redesign	9	0
300 – CIO Administration	4	6
302 – Business & Customer Services	5	5
310 – System Engineering & Administration (Servers)	17	17
310 – System Engineering & Administration (Storage)	8	11
330 – Networking & Telecommunications	18	19
345 – EMMS Development	17	17
347 – Enterprise Integration	10	10
354 – Enterprise Information Services	16	16
355 – Enterprise Architecture	9	8
356 – Commercial Services	17	17
357 – Corporate Applications	19	27
360 – Database Administration	11	11
380 – Console Operations	15	15
385 – Release Management	7	10
390 – IT Commercial Operations	22	35

395 – EMMS Production	20	24
396 – IT Division Project Organization	4	4
<b>Total</b>	228	252

As shown in Figure 1, the overall Board-authorized headcount for the IT division in the budget approved by the ERCOT Board of Directors increases by 24 FTEs in 2009. The IT organization previously included another department: Department 315 – Storage Resource Management. In the 2009 budget, the functions performed by Department 315 are rolled into Department 310, with some existing staff assigned to Departments 385 and 390.

**Q. PLEASE EXPLAIN THE ELIMINATION OF “NODAL MARKET REDESIGN” STAFFING.**

A. The staff that manages the various projects that are part of the Nodal Program will complete its work when the market opens. Beginning in 2009, Nodal market functions will be managed and budgeted as part of ERCOT’s base operations. The “Program Management Office” that manages the Nodal Program, including Nodal Program Executive Director Jerry Sullivan and his staff, was included in the IT division’s 2007-08 budget framework, even though its work is funded by the Nodal surcharge rather than the System Administration Fee. Once Nodal market operations become part of ERCOT’s base operations after Go-Live, the “Nodal Market Redesign” staff will no longer exist as a separate organizational unit. Therefore, its FTE count in this area is reduced to zero for 2009.

**Q. DIRECTING YOUR ATTENTION TO THE 2009 HEADCOUNTS FOR THE IT DIVISION, PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNTS BY DEPARTMENT.**

A. My testimony is organized to first discuss the departments that are most affected by the growing demands on the division, and have the largest associated headcount increases in the 2009 Board-approved budget. I will then describe the results of the deep dive analysis for the departments where staffing requests

1 decreased from 2008 levels or remained the same as the headcounts authorized in  
2 by the Board 2008.

3  
4 **A. DEPARTMENTS REQUESTING ADDITIONAL HEADCOUNT.**

5  
6 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
7 **FOR THE IT COMMERCIAL OPERATIONS DEPARTMENT (DEPT.**  
8 **390).**

9 A. The 2009 budget headcount for the IT Commercial Operations department is 35  
10 FTEs, an increase of 13 over the 2008 Board-authorized level. The IT  
11 Commercial Operations department is a core “technical support” and operations  
12 group for internal and market- facing IT applications used at ERCOT, and  
13 provides support for retail and wholesale applications and processes. These  
14 include retail transaction processing, web-based applications support (*e.g.*,  
15 MarkeTrak), Lodestar, and wholesale batch operations, digital certificate  
16 administration, and delivery of extracts and reports to the market. In the 2009  
17 budget year, the Commercial Operations department will have a tremendous  
18 amount of work associated with deploying and operating commercial and  
19 enterprise integration applications that are necessary for the Nodal market  
20 transition. While gearing up for Nodal Go-Live, the department must also create  
21 and administer commercial applications and environments (*e.g.*, iTest, Prod,  
22 Cert), and process ongoing System Improvement Requests (“SIRs”).

23  
24 **Q. WHAT SPECIFIC NODAL MARKET RESPONSIBILITIES IS THE IT**  
25 **OPERATIONS DEPARTMENT EXPECTED TO PERFORM?**

26 A. In the Nodal market, IT Commercial Operations will assume support  
27 responsibilities for over a dozen new applications and environments. These  
28 responsibilities include support duties for:

- 29 (1) Market Information System (“MIS”), including the MIS graphical user  
30 interface (“GUI”) and application programmatic interface (“API”).

1 (2) Market Participant Identity Management (“MPIM”), including ERCOT  
2 and Market Participant user certificates and Server Secure Socket Layer  
3 (“SSL”) certificates.

4 (3) Credit Monitoring and Management (“CMM”).

5 (4) Enterprise Integration Project (“EIP”).

6 (5) Market Participant registration and disputes.

7 The department staff will also be responsible for creating and supporting  
8 environments for Integrated Functional Acceptance Testing (“iFAT”), EDS, FAT,  
9 Integrated Development (IDev) and Sandbox. The department’s duties are  
10 detailed further in its deep dive documentation.

11  
12 **Q. WHAT WAS THE NECESSARY HEADCOUNT INDICATED BY THE IT**  
13 **COMMERCIAL OPERATIONS DEEP DIVE ANALYSIS?**

14 A. The original deep dive estimates indicated a need for additional headcount in the  
15 department, but not at the level ultimately determined necessary by division  
16 management. There are several drivers for the new headcount. These include  
17 operations and monitoring of several new applications, increased need for 24x7  
18 support for more applications, management of more software releases and higher  
19 service level expectations by the market and internal ERCOT customers. Further  
20 analysis convinced management that the task analysis would call for a total  
21 departmental headcount of 39.1 FTEs, even though the department’s 2008 Board-  
22 authorized headcount was 22 FTEs. Management continued its analysis  
23 throughout the budget development process, and continued to refine the task  
24 analysis and headcount estimate as the division learned more about the support  
25 needed for new applications during the course of late 2007 and the first quarter of  
26 2008. Ultimately, we determined that a headcount of 35, including the conversion  
27 of some contractors to ERCOT FTEs, would be sufficient for the department for  
28 2009, and if actual workload did increase at the level estimated in the task  
29 analysis, it would have to be assumed through additional overtime or, if  
30 unavoidable, the use of contractors

1 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
2 **FOR THE ENERGY MARKET AND MANAGEMENT SYSTEM**  
3 **(“EMMS”) PRODUCTION SUPPORT DEPARTMENT (DEPT. 395).**

4 A. The 2009 budget headcount for the EMMS Production Support Department is 24  
5 FTEs, an increase of four (4) FTEs, including two contractor conversions, over  
6 the Board-authorized 2008 level. The EMMS Production Support department  
7 provides 24x7 support for the Energy Management and Market Systems  
8 (“EMMS”). Its duties include support of frequency control, real-time network  
9 applications, DC-tie automation, ICCP and RTU applications, and disaster  
10 recovery preparedness. This group is also responsible for system and integration  
11 testing of applications prior to migration into production.

12 Like the Commercial Operations department, the EMMS Production Support  
13 group refined its task analysis repeatedly to consider likely outcomes of the move  
14 to the Nodal market. For example, the department found it most prudent to  
15 assume an increase in the number of applications failures, bug fixes, and Service  
16 Investigative Reports that its staff will be called upon to complete in the first year  
17 of Nodal operations. If adequate staff is not on hand to handle such issues, it  
18 could have critical impacts on the ERCOT markets and reliability. In addition to  
19 the expected increase in general technical support needs, the department has been  
20 assigned specific duties directly relate to new Nodal systems:

- 21 (1) NMMS and CRR maintenance.
- 22 (2) Increased data migrations (which must occur daily rather than once every  
23 other week).
- 24 (3) MMS and CRR web interfaces.
- 25 (4) Additional EMMS applications, including wind power forecasting, forced  
26 outage detection, voltage support, outage evaluation, Common  
27 Information Model (“CIM”) importer, Day-Ahead Market, and Security  
28 Constrained Economic Dispatch (“SCED”).

29 The additional new responsibilities, plus the anticipated increase in “day-to-day”  
30 challenges keeping systems running, convinced management that an increase in  
31 the EMMS Production Support department is merited.

1 **Q. HOW DOES THE WORK OF THE EMMS PRODUCTION SUPPORT**  
2 **DEPARTMENT DIFFER FROM THAT OF THE EMMS DEVELOPMENT**  
3 **DEPARTMENT?**

4 A. The EMMS Development department focuses on software applications  
5 development, rather than the applications support functions performed by the  
6 EMMS Production Support department. The EMMS Development department  
7 includes a set of software developers who have in-depth expertise in both  
8 programming and power flow systems management applications and ERCOT  
9 business processes. They are responsible for developing applications in three  
10 areas: (1) Network and EMS platform; (2) Generation applications, NMMS and  
11 its interfaces; and (3) Market and Outage Scheduling systems.  
12

13 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
14 **FOR THE EMMS DEVELOPMENT DEPARTMENT (DEPT. 345).**

15 A. The 2009 budget headcount for the EMMS Development Department  
16 remains steady at 17 FTEs. The department will be responsible for additional  
17 development projects, while maintaining its role as the developer of new  
18 applications and upgrades for existing systems unaffected by the Nodal transition.  
19 The new development projects are in the following areas:

- 20 (1) Network & EMS Platform: EMS upgrade, forced outage detection,  
21 resource limit calculator application, wind generator interface.  
22 (2) Generation/NMMS/Interfaces: NMMS / Information Model Manager,  
23 NMMS/TNA (Transmission Network Application), Base Point  
24 Calculation (for LMPs), Operator Training Simulator.  
25 (3) Market & Outage Scheduling: Day-Ahead Market, CRR, Outage  
26 Scheduler (includes a full replacement), RUC, and Supplementary  
27 Ancillary Services Market ("SASM").

28 The departmental task analysis showed a work level expected at slightly over the  
29 2008 headcount (17.4 FTEs), but management determined that the department can  
30 achieve its 2009 objectives at its current staffing level. .  
31

1   **Q.   PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
2   **FOR THE CORPORATE APPLICATIONS DEPARTMENT (DEPT. 357).**

3   A.   The 2009 budget headcount for the Corporate Applications Department is 27  
4       FTEs, an increase of seven (8) FTEs over the 2008 Board-authorized level. The  
5       Corporate Applications department provides necessary code design,  
6       enhancements, upgrades, configuration, and integration services for ERCOT's  
7       internal corporate and IT applications. The department also provides technical  
8       support and problem resolution for corporate applications. In 2007, the Web &  
9       Data Services department was merged into Corporate Applications. Web & Data  
10      Services' responsibilities include support for all web-based applications and  
11      portal operations.

12      The growth in the Corporate Applications department is driven by the need for  
13      new applications development and production support. The department supports  
14      four areas within the ERCOT organization: (1) Enterprise Services; (2) Content  
15      Management; (3) Web & Data Services; and (4) Enterprise Resource Planning.  
16      Each of these areas has a baseline set of IT applications that require support, and  
17      each area is going to experience addition of at least one new application in 2009.  
18      Each of these applications is being implemented based on demonstrated need.  
19      For example, the Enterprise Resource Planning team will provide application  
20      development and production support for a budget management application that  
21      will improve ERCOT's ability to track its expenditures to budget; the Enterprise  
22      Services group will provide the development and production support for the new  
23      ERCOT MPIM system that will be managed and supported by Commercial  
24      Operations. The department's deep dive analysis (included in Exhibit RH-1)  
25      details the current applications supported by department staff, and the additions  
26      slated for 2009. In order to maintain current internal applications and develop  
27      additional ones, the department needs the additional FTEs approved by the Board  
28      for its 2009 budget.



1   **Q.   PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
2   **FOR THE RELEASE MANAGEMENT DEPARTMENT (DEPT 385).**

3   A.   The 2009 budget headcount for the Release Management Department is ten (10)  
4       FTEs, an increase of three (3) over the 2008 Board-authorized level. The Release  
5       Management department is responsible for tracking, scheduling, and coordinating  
6       changes to ERCOT integrated software testing and production environments. The  
7       staff's skills include project management, software development lifecycle  
8       expertise, and quality assurance practices. The department develops and  
9       maintains release plans and schedules, and manages customer expectations of  
10      upcoming releases (including coordination of the Change Control process when  
11      customers request design or functional changes to the software). The planning for  
12      new software releases is done during normal business hours but the migration of  
13      new code into production is done during evenings, weekends, and long holiday  
14      periods. Occasionally some migrations encounter unforeseen problems and this  
15      team will be asked to revert to the previous version. For example, the department  
16      managed 779 releases in 2007, including 22 that had to be rolled back to previous  
17      versions.

18      The demands on the Release Management group have been very high during the  
19      development of Nodal systems. Those demands will continue into 2009; the "best  
20      of breed" software implementation for the Nodal market adds an additional five  
21      (5) software environments which need to be controlled through Release  
22      Management. There have been more than 250 releases in just the first three  
23      months of 2008. In addition, Release Management staff plays a critical role in  
24      making certain ERCOT complies with SAS 70 accounting requirements, by  
25      enforcing audit controls related to software production control metrics. Change  
26      control is the process of ensuring that any change to a production environment is  
27      thoroughly tested, documented and that changes are controlled in compliance with  
28      SAS70. There were 1,399 change control cases in 2007 and that number is  
29      expected to increase with Nodal implementation.

30      The departmental task analysis estimated that headcount should increase by over  
31      three (3) FTEs to meet 2009 workload. The department staff originally attempted

1 to maintain current headcount and find ways to manage workload through  
2 automation and process efficiencies. As part of the budget development process,  
3 however, division management determined that, while such efficiencies should be  
4 pursued, the Release Management department's tasks in 2009 are too critical to  
5 Nodal success to risk understaffing them. Therefore, the department FTE count  
6 was increased by three (3) FTEs in the budget approved by the ERCOT Board of  
7 Directors.

8  
9 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
10 **FOR THE NETWORKING & TELECOMMUNICATIONS**  
11 **DEPARTMENT (DEPT. 330).**

12 A. The 2009 budget headcount for the Networking & Telecommunications  
13 department is 19 FTEs, up from 12 FTEs budgeted for 2008. The increase of  
14 seven (7) FTEs for 2009 is due to the transfer of deskside support responsibilities  
15 from the System Engineering & Administration department. The department's  
16 headcount has remained flat since 2006, and, but for this transfer of personnel,  
17 would remain so in 2009. The department's task analysis showed an increase in  
18 workload, associated primarily with new networking responsibilities. These new  
19 tasks are in addition to the ongoing management of approximately 7,500 network  
20 ports, 75 firewall interfaces, and 130 Market Participant WAN points of presence.  
21 Management determined, however, that the core functions of the department  
22 could be performed with current staff.

23 The growth in workload for the Networking & Telecommunications department is  
24 directly related to the growth of other new technologies at ERCOT: as the number  
25 of servers in operation at ERCOT increases to support Nodal functionality, the  
26 need for networking and telecommunications infrastructure also increases. In  
27 addition, the security standards the staff must enforce to meet NERC and ERCOT  
28 internal controls make the networking environment more complex than in a  
29 normal business. The Telecommunications group in the department manages the  
30 Wide Area Network ("WAN") that facilitates communication between ERCOT

1 and Market Participants, as well as all phone communications (such as PBX/voice  
2 mail support, conferencing, and cellular signal propagation.  
3

4 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
5 **FOR THE CIO ADMINISTRATION DEPARTMENT (DEPT 300).**

6 A. The 2009 budget headcount for the CIO Administration Department is six (6)  
7 FTEs, an increase of two (2) over the 2008 Board-authorized level. The increases  
8 are placeholder positions for two ERCOT employees working on the Nodal  
9 Program (Mr. Jerry Sullivan, the Executive Director of the Nodal Program, and  
10 Mr. Raj Chudgar, a Nodal project director). As of this filing, the roles of these  
11 two valuable employees post-Go-Live have not been determined, but we expect to  
12 utilize their skills in the future. The headcount for the CIO Administration  
13 department is to preserve positions for them.  
14

15 **B. DEPARTMENTS REQUESTING HEADCOUNT REDUCTIONS**  
16 **OR CONTINUATION OF PRIOR YEAR HEADCOUNT.**  
17

18 **Q. ARE THERE DEPARTMENTS WITHIN THE IT DIVISION WITH**  
19 **LOWER OR SIMILAR HEADCOUNTS IN 2008 COMPARED TO THE**  
20 **2009 BUDGET?**

21 A. Nine of the 16 departments in the IT division go into 2009 with reduced or flat  
22 budgets compared to the 2008 Board-authorized headcount. These include many  
23 departments that are also affected by new Nodal market responsibilities. These  
24 departments are able to manage new workload with existing or lower headcount  
25 either because it replaces Zonal market work, or because the department was able  
26 to reach a steady state staffing level for the future in prior budget years, before the  
27 completion of the Nodal Program.  
28

29 **Q. HAS THE DIVISION EXAMINED ORGANIZATIONAL CHANGES**  
30 **THAT MIGHT REDUCE HEADCOUNT?**

31 A. Yes. The IT division has made organizational changes in prior years where a new  
32 management structure promised to deliver efficiencies while not compromising

1 departmental functions. In the 2009 budget, the IT division eliminated  
2 Department 315 – Storage Resource Management, incorporating its functions into  
3 another department. This organizational change eliminated the need for a  
4 department manager position, and enabled more efficient utilization of other  
5 positions within the division. We will continue to examine opportunities to  
6 consolidate or re-organize divisional functions in ways that can reduce IT  
7 headcount or create other savings for ERCOT.

8  
9 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
10 **FOR THE BUSINESS & CUSTOMER SERVICES DEPARTMENT (DEPT**  
11 **302).**

12 A. The 2009 budget headcount for the Business & Customer Services department is  
13 five (5) FTEs, the same as Board-authorized in 2008. ERCOT created the  
14 Business & Customer Services department in 2005, in order to meet several  
15 deficiencies in the IT organization. The department manages the IT division's  
16 customer relationships and is primarily responsible for executing the division's  
17 "business within a business" strategy. The department also developed (and  
18 maintains) the IT Services Catalog, manages centralized IT administrative tasks  
19 software licensing issues, and negotiates SLAs with division customers.  
20 This department is also responsible for IT administrative activities, such as budget  
21 development, financial reporting, vendor negotiations and contract administration.  
22 Department staff strives to deliver IT administrative tasks smoothly, and to foster  
23 positive interactions between IT staff and the ERCOT customers they serve. The  
24 department's task analysis showed an anticipated increase in workload due to the  
25 potential up-tick in issues raised by IT customers related to the many new Nodal  
26 systems the ERCOT will deliver in 2009. As the IT division's liaison with  
27 affected internal and external customers, the department may have to respond to  
28 many more issues than in past years. Management determined, however, that any  
29 increases can be managed with existing staffing.

1 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
2 **FOR THE SYSTEM ENGINEERING & ADMINISTRATION**  
3 **DEPARTMENT (DEPT. 310).**

4 A. The 2009 budget headcount for the System Engineering & Administration  
5 department is 28 FTEs. System Engineering & Administration administers all  
6 services related to Microsoft Windows® and data protection services. As a part  
7 of these tasks, department staff handle virus protection and spam management,  
8 disaster recovery execution, data backup and restoration activities, and system  
9 build and configuration issues. The Storage Administration group was merged  
10 into the System Engineering and Administration department in 2007 to gain  
11 efficiencies between the groups. Storage demands have increased dramatically  
12 since the Nodal program was started, which has led to the increased headcount  
13 request for this team. A few examples demonstrate the nature of the increase in  
14 the System Engineering & Administration department's work : the number of  
15 Unix servers (Hewlett Packard UX, IBM AIX, and Linux) has grown by 280%;  
16 the number of Windows® servers (blades and virtual servers) has grown by  
17 188%; similarly, the data storage required to house ERCOT and market data has  
18 increased from 6 terabytes in 2001 to over 900 terabytes currently and is expected  
19 to increase to over 1000 terabytes within the next year or two.

20 While there has been significant growth in the tasks facing the department,  
21 System Engineering & Administration staff also expects to be able to reduce cycle  
22 time for various tasks by using improved toolsets and automation. Department  
23 management also plans to aggressively utilize new management tools, as well as  
24 continue automation efforts, to improve productivity. The department team  
25 determined, in its final analysis, that while workload may continue to increase, the  
26 department could prudently manage its responsibilities and still reduce headcount  
27 by three FTEs in 2009.

28  
29 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
30 **FOR THE ENTERPRISE INTEGRATION DEPARTMENT (DEPT. 347).**

1 A. The 2009 budget headcount for the Enterprise Integration department remains at  
2 10 FTEs, with no change proposed from the 2008 staffing level. The Enterprise  
3 Integration department employs software developers to create and maintain  
4 integration points between software applications that allow data transfer between  
5 systems. The department was created in 2005 as ERCOT replaced SeeBeyond  
6 with TIBCO as the middleware platform for the Retail transaction processing  
7 systems, a change that was part of ERCOT's move to a service-oriented  
8 architecture. The Enterprise Integration department began with six (6) FTEs in  
9 2006, but has increased since then to a steady staffing level of 10 FTEs to support  
10 the nodal implementation and for post-Nodal support.

11 While Enterprise Integration first focused on integration of the systems that  
12 compose the ERCOT retail platform, its work has shifted recently to Nodal  
13 systems. Each of the Nodal systems (EMS, MMS, NMMS, CRR, CMM, and  
14 Settlements & Billing) requires development of integration applications that  
15 enable each to communicate with the other. As the underlying applications have  
16 moved toward completion, the scope of the integration project became clearer –  
17 and larger. There are over 300 points of integration required between applications  
18 to ensure Nodal systems can talk to one another. (The complexity of the  
19 integration points and associated information flow are depicted in the Enterprise  
20 Integration department's deep dive materials included in Exhibit RH-1). In  
21 addition, the Enterprise Integration group is responsible for delivering over 100  
22 web-based services for the Nodal market.

23 The Enterprise Integration team has been augmented by 50-60 developers retained  
24 by the Nodal Program to establish the necessary integration points. Once the  
25 Nodal market Goes Live, the department expects to be able to manage its  
26 workload with its current staffing level of 10 FTEs and support from the  
27 implementation vendor for a time after market Go-Live.

28

29 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
30 **FOR THE ENTERPRISE INFORMATION SERVICES DEPARTMENT**  
31 **(DEPT. 354).**

1 A. The 2009 budget headcount for the Enterprise Information Services (“EIS”)  
2 department is 16 FTEs, the same as its 2008 Board-authorized headcount. The  
3 Enterprise Information Services department provides data archiving, business  
4 intelligence, regulatory and marketplace decision support, and related data  
5 gathering services to ERCOT internal and external customers. In order to comply  
6 with its Protocols, ERCOT must maintain both real-time and historical  
7 information for purposes of data extraction, reporting, analysis, and decision  
8 support for market oversight activities conducted by the Commission and the  
9 IMM. Data must also be delivered to Market Participants that can be used in their  
10 systems, and to ERCOT for internal analysis. The EIS department provides these  
11 services by supporting production reports, extracts, and the Data Delivery Module  
12 (“DDM”); by developing business intelligence through creation and maintenance  
13 of reports and extracts and by establishing and maintaining ERCOT’s massive  
14 replicated databases, and using planning and system architecture tools to plan for  
15 future needs.

16 The EIS will maintain the Enterprise Data Warehouse (“EDW”) environment in  
17 the Nodal market. Due to the vast amount of data generated by Nodal systems,  
18 the EDW is prepared to handle replication and storage of far more data than is  
19 replicated today (currently, EIS replicates approximately 25-35 million rows of  
20 data every day). EIS management believes it can accomplish its 2009 tasks at  
21 current staffing levels without compromising the quality of its reports and extracts  
22 prepared for the Commission, the IMM, and Market Participants.

23

24 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
25 **FOR THE ENTERPRISE ARCHITECTURE DEPARTMENT (DEPT. 355).**

26 A. The Enterprise Architecture department’s headcount is one (1) FTE lower than  
27 the 2008 Board-authorized headcount, with eight (8) FTEs in the 2009 budget  
28 approved by the ERCOT Board. Enterprise Architecture provides the framework  
29 for ensuring consistency and predictability to the overall ERCOT IT system  
30 design, deployment, and operation. As systems are used and changed,  
31 compliance with architectural determinations are key to maintaining coherency

1 and optimum functionality. Establishing a system architecture for an organization  
2 includes consideration of the people, processes, information, and technology  
3 involved – and consideration of those elements’ relation to each other and to the  
4 external environment. Maintaining flexibility within a system architecture, and  
5 enforcing its key elements is an ongoing job, and involves activities including  
6 infrastructure and change management, business continuity and disaster recovery  
7 planning, software and process development, and system analysis and modeling.  
8 The Enterprise Architecture team has been integrally involved in the overall  
9 system design of the Nodal market, particularly to ensure consistency across  
10 projects through design control SoSA. The department expects its workload may,  
11 after Nodal Go-Live, fall below previous levels sufficiently to reduce its  
12 headcount by one (1) FTE. However, this group will add a new quality assurance  
13 (“QA”) responsibility and one of the existing headcount will be changed to handle  
14 the QA role.

15  
16 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
17 **FOR THE COMMERCIAL SERVICES DEPARTMENT (DEPT. 356).**

18 A. The 2009 budget headcount for the Commercial Services department is 17 FTEs,  
19 the same number Board-authorized in the 2008 budget. Commercial Services  
20 employs the software development team responsible for designing, coding,  
21 implementing, and maintaining the systems that support the retail electric market  
22 and wholesale settlements and billing. Commercial Services increased its  
23 headcount to 17 FTEs in 2006 to address the need to develop and maintain retail  
24 market systems, and has maintained a steady staffing level through the Nodal  
25 development process. The department will be responsible for maintaining new  
26 Nodal systems (including Settlements for Day-Ahead Market, real-time, RUC,  
27 and CRR), as well as the retail and wholesale systems already in its portfolio.  
28 The department believes it can achieve 2009 workload without adding new FTEs.  
29



1     **Q.     HAS THE COMMERCIAL SERVICES DEPARTMENT INCLUDED ANY**  
2     **FUNDING IN ITS 2009 BUDGET FOR ADVANCED METERING**  
3     **INITIATIVES?**

4     A.     No. There has been a great deal of recent activity regarding initiatives to advance  
5     the availability and functionality of advanced metering in the ERCOT region.  
6     Depending on the policy decisions ultimately made regarding the issue, ERCOT  
7     may be required to invest in software, hardware, Data Center space or personnel  
8     to execute such policies. At the time of the preparation of the 2009 ERCOT  
9     budget and of this testimony, however, no requests have been formally made or  
10    requirements established that would cause the IT division to include advanced  
11    metering initiatives in its budget plans.

12  
13    **Q.     PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
14    **FOR THE DATABASE ADMINISTRATION DEPARTMENT (DEPT. 360).**

15    A.     The 2009 budget headcount for the Database Administration department includes  
16    11 FTEs, the same number as Board-authorized for 2008. The Database  
17    Administration department provides support for all production, test and  
18    development database environments. This includes database design,  
19    development, testing, monitoring, performance tuning and backup and recovery  
20    activities. Department personnel must have in-depth familiarity with Oracle and  
21    Microsoft SQL Server databases: the department team supports over 140 Oracle  
22    and 298 SQL Server databases in use at ERCOT. The department's work has  
23    grown in the past several years, and its FTE count has grown by three (3) since  
24    2006. Department staff expects database management activities to remain at a  
25    fairly constant level in 2009, and requested continuation of the headcount of 11  
26    FTEs currently Board-authorized in 2008.

27  
28    **Q.     PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
29    **FOR THE CONSOLE OPERATIONS DEPARTMENT (DEPT. 380).**

30    A.     The 2009 budget headcount for the Console Operations department also remains  
31    flat at its 2008 Board-authorized level, 15 FTEs. The Console Operations area

1 provides two primary functions. The first function is to monitor 24x7 critical  
2 infrastructure assets, such as servers, storage devices, critical application  
3 components, databases and network gear, and to respond to system alerts when  
4 problems arise. This team is the first level of support for these components and  
5 performs the necessary escalation procedures when problems occur. The Console  
6 Operations department also operates the ERCOT IT "Helpdesk," which is the  
7 primary first point of contact for ERCOT employees and Market Participants  
8 experiencing problems using ERCOT systems. Console Operations department  
9 personnel maintain a 24x7 staff presence to assist ERCOT and Market Participant  
10 callers. The department expects its workload to remain consistent with that  
11 experienced in 2008, and is confident the Helpdesk function can operate  
12 effectively at the staffing level of 15 FTEs.

13  
14 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
15 **FOR THE IT DIVISION PROJECT ORGANIZATION (DEPT. 396).**

16 A. The 2009 budget headcount for the IT Division Project Organization ("DPO")  
17 department remains the same as for 2008: four (4) FTEs. The IT DPO manages  
18 implementation of capital projects within the division and large O&M funded  
19 projects, develops divisional PPL release plans, and prepares all deliverables  
20 required by the ERCOT Project Management Organization ("PMO"). The IT  
21 DPO managed 19 projects in 2007, and expects it will be called upon to manage  
22 projects that will require a similar dedication of staff resources in 2009.  
23 Management believes that it is prudent to maintain the IT DPO staffing levels in  
24 the coming year because there may be a need for project management skills to  
25 implement large projects associated with Nodal market bug fixes that are not  
26 currently foreseen. This team was instrumental in completing several large  
27 projects for Nodal and was aided by consultants from IBM and other suppliers to  
28 complete these critical infrastructure activities.

1           **III.     2009 INFORMATION TECHNOLOGY DIVISION BUDGET**

2  
3   **Q.     WHAT IS THE TOTAL 2009 BUDGET FOR THE IT DIVISION**  
4   **APPROVED BY THE ERCOT BOARD OF DIRECTORS?**

5   A.     The total 2009 Board-approved budget is \$51,491,918. This compares to a total  
6           2008 budget of \$31,505,567.

7  
8   **Q.     WHAT ARE THE PRIMARY DRIVERS OF THE EXPENDITURES IN**  
9   **THE IT DIVISION BUDGET?**

10  A.     For the IT division, Nodal market operations drive most of our major  
11           expenditures. As I discussed in the previous section of my testimony, division  
12           headcount increases by 24 FTEs, primarily to staff the division for the ongoing  
13           software development, testing, maintenance, administration, and integration tasks  
14           we expect to be generated by the new Nodal IT systems. The labor and benefits  
15           costs associated with this increase in headcount have a major impact on overall  
16           division expenditures. Moreover, in the 2009 budget year, labor and benefits  
17           costs associated with Nodal implementation become a part of ERCOT base  
18           operations. In past years, such costs were credited to the Nodal Program and paid  
19           for via the Nodal surcharge. The Nodal surcharge, however, is intended to pay  
20           only for the pre-Go-Live costs of delivering Nodal systems.

21  
22  **Q.     WHAT IMPACT DOES THIS HAVE ON THE IT DIVISION'S LABOR**  
23  **AND BENEFITS BUDGET?**

24  A.     In the 2006-2008 budget years, ERCOT accounted for the labor and benefits costs  
25           for those employees who were hired to assist in running the new Nodal market in  
26           a manner that reflected the fact that ERCOT's base operations and Nodal  
27           development operations were funded from different sources. When the IT  
28           division increased its expenditures on labor and benefits to meet the demands of  
29           the development of the Nodal System, it hired certain employees to assist in  
30           Nodal development and implementation who could then become part of the  
31           ERCOT team that will operate the Nodal system after Go-Live. During the

1 development of the Nodal System, employees recorded their time to either the  
2 Nodal Program projects or ERCOT's base operations (*i.e.*, tasks not associated  
3 with the Nodal Program). For purposes of the overall ERCOT base operations  
4 budget, when ERCOT employees recorded time to one of the Nodal projects,  
5 ERCOT effectively credited base operations to lower the base labor costs by the  
6 amount charged to Nodal.

7 For example, in 2006, as Nodal implementation got underway, the IT division's  
8 expenditures on labor and benefits were \$18,098,034. Of that amount,  
9 \$2,337,896 was attributable to Nodal Program projects. For budgeting purposes,  
10 the \$2 million was credited against the total labor and benefits expenditures, and  
11 was slated for recovery via the Nodal surcharge. The remaining labor and  
12 benefits amount was attributed to the division's base operations, and recovered  
13 from the System Administration Fee. The same was true for 2007 and 2008, as  
14 the work on the Nodal Program in the IT division accelerated. In the 2008  
15 budget, the amount of Nodal labor and benefits "credited" against the IT  
16 division's budget grew to \$8 million. In 2009, however, all labor and benefits  
17 costs will be attributed to ERCOT's base operations. Therefore, the "credit" to  
18 the division's labor and benefits budget no longer exists. Similarly, the Nodal  
19 Program was responsible for an allocated amount of the expenditures the division  
20 was required to make on support, employee backfill, and facilities. In 2009, the  
21 labor and benefits amount and the allocation amounts flow to the division's  
22 bottom line without the deductions attributable to Nodal projects in past years.  
23 The budget attributions result in the percentage increase in division labor and  
24 benefits costs appearing to be much larger than it actually is.

25  
26 **Q. HOW DID YOU DETERMINE COMPENSATION LEVELS INCLUDED**  
27 **IN THE 2009 ERCOT BUDGET FOR LABOR COSTS IN THE IT**  
28 **DIVISION?**

29 **A.** For existing employees, existing salaries were used. For vacant or new positions,  
30 salaries were estimated by Finance based on the mid-point salary for the job  
31 grade. If the position is new and has not been assigned a job grade, it is slotted

1 based on similar type positions and then reviewed in detail after a full position  
2 analysis is performed by Human Resources upon posting the position. Human  
3 Resources provides support to Finance to calculate the proper loading for benefits  
4 to be included in the ERCOT budget. The benefit load is determined by prior  
5 year expenses and actuarial assumption of future expenses.  
6

7 **Q. IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
8 **LABOR TO ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

9 A. Yes, the amount included in the 2009 budget for labor is reasonable to accomplish  
10 our current responsibilities, and our best estimate of the additional tasks that will  
11 arise after the division completes the transition to operating Nodal systems.  
12

13 **Q. WHAT OTHER IMPACTS DOES NODAL MARKET**  
14 **IMPLEMENTATION HAVE ON THE 2009 IT SYSTEMS BUDGET?**

15 A. The largest impact is that ERCOT leadership, in consultation with Market  
16 Participants, included a one-time operating expense of \$5.4 million to the IT  
17 division budget to cover unforeseen problems with the new Nodal systems. The  
18 original submission of this one-time expense was \$6.5 million, but some of these  
19 funds were for contractors which have been converted to FTEs to ensure higher  
20 service levels to the market. This “bug fix” contingency will be used for items  
21 developed by ERCOT and contractor staff during Nodal and for items not covered  
22 by warranties on the vendor-provided systems. This contingency accounts for a  
23 large increase in expenditures for outside services in the IT division budget (from  
24 \$2.8 million in 2008 to \$6.4 million in 2009). By giving the IT division the  
25 flexibility to augment its staff resources as necessary, the “bug fix” contingency  
26 provides both ERCOT leadership and Market Participants with increased  
27 confidence that there will be sufficient funding to take care of unforeseen  
28 problems that are bound to arise in a software development project the size of the  
29 Nodal Program. It is without question a one-time budget line item, and ERCOT is  
30 hopeful that a smooth Nodal transition will mean it is not necessary to obligate all  
31 that has been set aside in the 2009 budget.

- 1   **Q.   WHAT ACCOUNTS FOR THE REMAINDER OF THE IT DIVISION’S**  
2   **OUTSIDE SERVICES BUDGET?**
- 3   A.   The remaining outside services contracts requested by the IT division are  
4       primarily for two categories of services. First, consulting services are used for  
5       specialized one-time needs such as isolated software development or staff  
6       augmentation for critical projects. Second, consulting services are used for  
7       supporting staff on repetitive assignments during peak periods or to backfill when  
8       staff is required for more pressing needs.  
9
- 10   **Q.   HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
11   **OUTSIDE SERVICES FOR THE IT DIVISION?**
- 12   A.   Generally, management determined that number by either (1) estimating the  
13       number of hours of outside services required for a given project or task or, (2) if  
14       contemplated as fixed fee services, estimating costs based on prior experience. If  
15       calculated based on a time and materials basis, we multiplied the hours by an  
16       average hourly rate based on ERCOT’s past experience with paying personnel  
17       with the required skill sets and background to perform the task.  
18
- 19   **Q.   IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
20   **OUTSIDE SERVICES TO ACCOMPLISH THE SCHEDULED TASKS**  
21   **FOR 2009?**
- 22   A.   Yes, the amount included in the 2009 budget for outside services is reasonable to  
23       accomplish the division’s tasks for 2009.  
24
- 25   **Q.   BESIDES THE NODAL OUTSIDE SERVICES CONTINGENCY, ARE**  
26   **THERE ANY OTHER UNUSUAL EXPENDITURES BUDGETED FOR**  
27   **2009?**
- 28   A.   Yes. The IT division budget includes approximately \$.9 million for services  
29       associated with wind power forecasting, which is included in the division  
30       budget’s “Other” category. This expense is for a service that forecasts the amount  
31       of generation that will be produced by wind generation in the ERCOT control

1 area and is required by the Nodal Protocols. This expense classified as a  
2 subscription service and therefore rolls up to the accounting category titled  
3 “Other” in the ERCOT budget. For the 2009 budget cycle ERCOT finance  
4 separated out data subscription expenses that were previously categorized as  
5 software maintenance into the subscription category. The additional increases in  
6 the ‘other’ category are a result of reclassifying these expenses and they are offset  
7 by a reduction in the hardware/software support and maintenance category  
8

9 **Q. PLEASE EXPLAIN THE HARDWARE AND SOFTWARE**  
10 **MAINTENANCE & SUPPORT BUDGET FOR THE IT DIVISION.**

11 A. The hardware/software maintenance and support budget expenses include vendor  
12 support and maintenance contracts. These expenses have risen sharply in recent  
13 years as ERCOT has increased the number of applications it runs. The division  
14 budget increases by \$2.8 million in 2009 from 2008, driven primarily by new  
15 Nodal-related hardware and software maintenance, support and. The initial  
16 purchase of the hardware and software necessary to implement and run core  
17 Nodal systems, however, has been funded via the Nodal surcharge. There are  
18 non-Nodal drivers of the increase as well. Generally, vendors increase their costs  
19 for maintenance and support by 3% to 5% per year.  
20

21 **Q. ARE THERE IT DIVISION CAPITAL PROJECTS INCLUDED ON THE**  
22 **ERCOT PROJECT PRIORITY LIST (“PPL”) FOR 2009?**

23 A. Yes, there are nine projects on the PPL, all of which were requested for inclusion  
24 by ERCOT management. The total estimated budget for the IT projects on the  
25 PPL is \$8,350,000.  
26

27 **Q. PLEASE DESCRIBE THE IT PROJECTS ON THE PPL FOR 2009.**

28 A. The IT capital projects fall into four categories. First, certain major pieces of  
29 equipment are at the end of their useful lives and should be replaced to ensure  
30 optimal functionality and minimization of repair costs. These four projects  
31 include network switches and firewalls, and computer hardware including desktop

1 and X-series replacements. Second, two data storage projects are necessary to  
2 maintain the Storage Area Network (“SAN”) and keep up with growing data  
3 storage demands. These projects involve SAN directors and switches and other  
4 data storage hardware and software. One project will enhance infrastructure  
5 monitoring by obtaining system enhancements to the existing Remedy and  
6 OpenView monitoring systems. Finally, the minor capital projects are for single  
7 items costing less than \$1,000.

8  
9 **Q. IN YOUR OPINION, ARE THE BUDGETED EXPENDITURES FOR THE**  
10 **INFORMATION TECHNOLOGY DIVISION REASONABLE AND**  
11 **SUFFICIENT TO ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

12 A. Yes, based on division staff and management’s best estimates of the 2009 impacts  
13 of the transition to Nodal market systems.

14  
15 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY AT THIS TIME?**

16 A. Yes, it does.





# ERCOT Organizational Deep Dive

INFORMATION TECHNOLOGY

Ron Hinsley

Vice President and Chief Information Officer

**May 2008**

- **Summary of Findings**
- **Organization Overview**
- **Task Analysis**

- IMM – Independent Market Monitor
- IDA – Integration Design Authority
- CMDB – Configuration Management Database
- EMS – Energy Management System
- NMMS – Network Model Management System
- CRR – Congestion Revenue Rights
- CMM – Credit Monitoring Management
- DDM – Data Delivery Module
- CSI – Commercial Systems Integration
- AIM – Applied Innovation Management (Helpdesk Tool)
- MOS – Market Operating System
- TML – Texas Market Link
- SAN – Storage Area Network



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
<b>Nodal Market Redesign</b>	<b>9</b>		<b>0</b>
<b>300 – CIO Admin</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>302 – IT Business &amp; Customer Services</b>	<b>5</b>	<b>5.8</b>	<b>5</b>
<b>310 – System Admin &amp; Engineering</b>	<b>17</b>	<b>29.5</b>	<b>17</b>
<b>310 – Storage Engineering</b>	<b>8</b>	<b>18.4</b>	<b>11</b>
<b>330 – Network</b>	<b>18</b>	<b>22.7</b>	<b>19</b>
<b>345 – EMMS Development</b>	<b>17</b>	<b>17.5</b>	<b>17</b>
<b>347 - Enterprise Integration</b>	<b>10</b>	<b>11.5</b>	<b>10</b>
<b>354 - Enterprise Information Services</b>	<b>16</b>	<b>18.0</b>	<b>16</b>

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
355 – Enterprise Architecture	9	8.7	8
356 - Commercial Services	17	19.1	17
357 - Corporate Applications	19	29.2	27
360 - Database Administration	11	12.4	11
380 – Console Ops	15	15.4	15
385 – Release Mgt	7	11.6	10
390 – IT Commercial Ops	22	39.1	35
395 – EMMS Production	20	28.7	24
396 – IT DPO	4	8.1	4
<b>Total</b>	<b>228</b>	<b>309.7</b>	<b>252</b>

# Factors that Drive IT Staffing Levels

- **Significant growth**
  - Server count up from 240 in 2002 to 1150+ today
  - Data storage increase by 1000% since 2001 and expected to continue growing
  - Application count increase (14+ new, not including EIS, DBA or Enterprise Integration)
  - Over 1200 change requests and 300 releases completed to date in 2007
  - Market demands increasing (new protocols, ad hoc requests, IMM)
  - Higher reliability demands by the market
- **Quality and maturity of department**
  - Overall market value will drive quality need
  - Reduction in defects needed
  - Overall IT maturity level causing stress, over-time, heroics
  - Higher emphasis on asset life cycle management



# Organization Overview



# Strategy Overview

## The IT Strategy

### Enterprise Architecture Approach

Align IT infrastructure, data, applications and processes and people to the ERCOT business strategy.

### Business Within a Business

Change the focus of IT professionals to the level of external providers and to consider all they deal with as customers. ERCOT fully understands what it receives for its IT dollars.

### Operational Excellence

Raise the level of IT system delivery to meet or exceed customer expectations. Provide a level of service that makes everyone feel as if they are the most important customer of IT.

## IT Strategy in Execution

### Enterprise Architecture Approach

- IDA for Nodal Systems
- Implemented Rational Unified Process (RUP) and Quality Assurance (QA) processes for Nodal
- Developed the System of Systems Architecture
- Developed the Technical Architecture engagement structure for Nodal

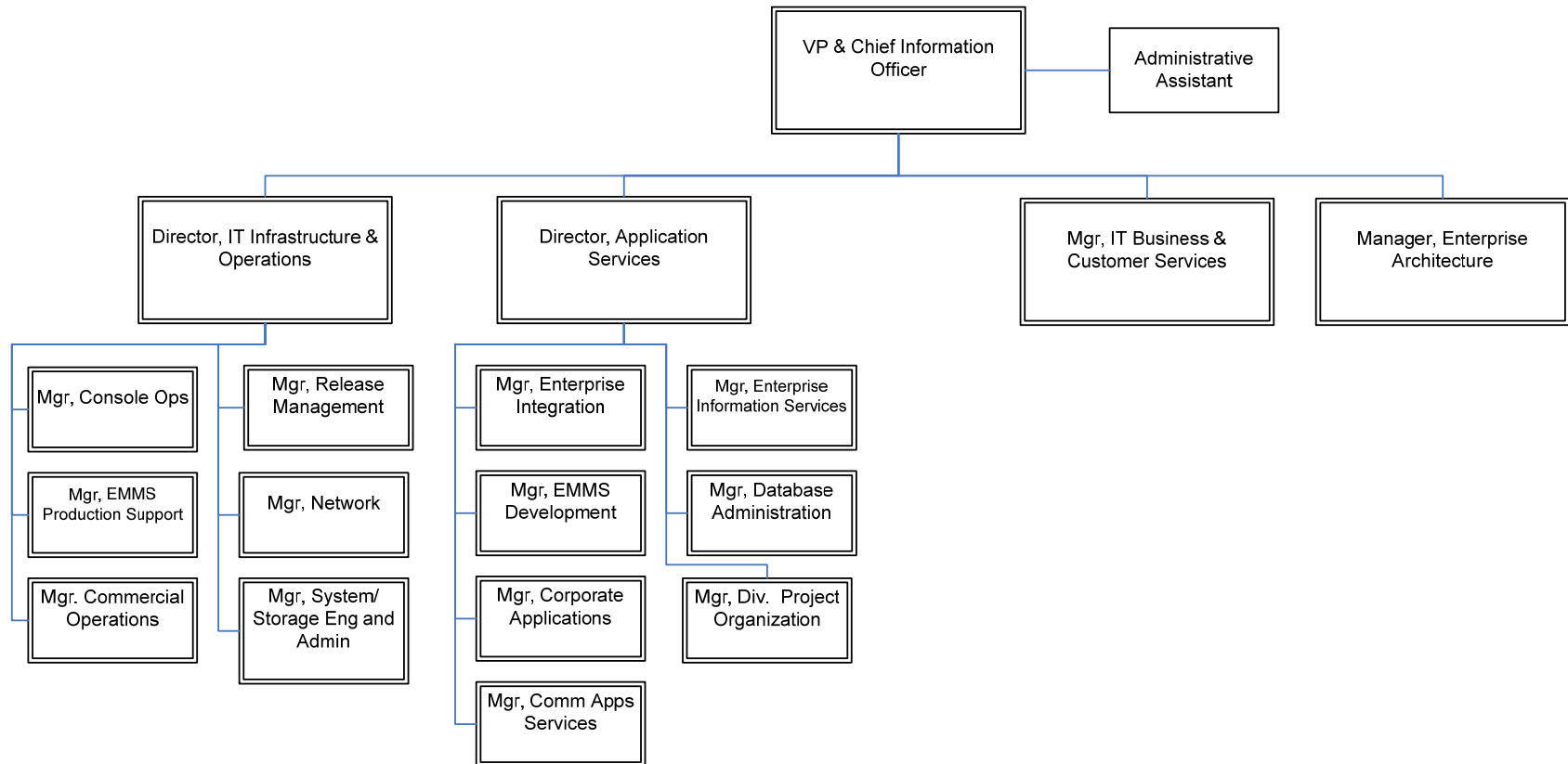
### Business Within a Business

- Improved IT relationship with external stakeholders through IT representation
- Development of Service Level Agreements for key market systems
- Developed IT service catalog and initiated service cost and benchmarking exercise

### Operational Excellence

- IT Operations staff ITIL trained
- Implementing infrastructure auditing tools, CMDB and improving monitoring tools
- Implementing new code repository tools and automated deployment method to improve quality

# Organizational Overview – Current Organization



# Information Technology – Core Functions

Infrastructure (David Forfia)	IT Operations (David Forfia)	IT Business & Customer Services (Aaron Smallwood)	Enterprise Architecture (Brian Cook)	Application Services (Lisa Petoskey)
<ul style="list-style-type: none"> <li>•Server configurations, management, maintenance (1000+ servers)</li> <li>•E-mail administration</li> <li>•Windows, AIX, UNIX and Linux management</li> <li>•Desk side support</li> <li>•Wide Area Network design and maintenance (includes internal and external. ~ 60 MP sites)</li> <li>•User administration</li> <li>•Voice telephony (switch and desktop admin)</li> <li>•Allocate physical storage</li> <li>•Maintain physical storage and SAN environment</li> <li>•Console Operations</li> <li>•Firewall management</li> </ul>	<ul style="list-style-type: none"> <li>•Help desk (~3600 calls through September, ~ 2800 trouble tickets closed through September)</li> <li>•Operate EMMS Production systems</li> <li>•EMS and MMS testing</li> <li>•Site fail over</li> <li>•Execute and maintain failover procedures</li> <li>•Move releases into production (257 releases through September)</li> <li>•Execute retail, web &amp; wholesale application production cycles</li> <li>•Trouble-shoot application production problems                             <ul style="list-style-type: none"> <li>• (Includes settlement and billing, MarkeTrak, TML)</li> </ul> </li> <li>•Measure and report production metrics</li> <li>•Manage digital certificates</li> </ul>	<ul style="list-style-type: none"> <li>•IT Financial Management (coordinate budget development, forecasting)</li> <li>•IT Strategic Planning</li> <li>•IT Service Catalog</li> <li>•IT Service Costing and Benchmarking</li> <li>•Liaison to key IT customers</li> <li>•Software license compliance</li> <li>•Hardware and software Contract and Vendor management</li> <li>•Service Level Agreement management</li> </ul>	<ul style="list-style-type: none"> <li>•Capacity Planning</li> <li>•Technology Roadmaps</li> <li>•Disaster Recovery</li> <li>•Technology Sizing, planning</li> <li>•Technology integration coordination</li> <li>•Data Center sizing - (Power, cooling, floor space projections)</li> <li>•User Experience Strategy</li> <li>•User Interface design</li> <li>•Architectural Guidance</li> <li>•Hardware and software guidance</li> <li>•Enterprise integration strategy and guidance</li> <li>•IT consulting</li> </ul>	<ul style="list-style-type: none"> <li>•EMS and MMS Application Development, support and vendor management. (SE, LFC, OS, OTS, DAM, CRR, RT, NMMS, SCADA, SCED, Etc. 40 functions total)</li> <li>•Enterprise Integration (Retail integrations, external web services, market operations systems, commercial systems, configuration management)</li> <li>•Enterprise Information (Data Warehouse application development and operations 34,000 extract files per month, 208 million records per month, 55 million ESIID intervals p/m)</li> <li>•Commercial systems (Lodestar, PaperFree, NAESB, Siebel, MarkeTrak, Credit monitoring.. 38 system functions total)</li> <li>•Corporate Applications Development and Support (Lawson vendor management, MS project, Mercury Test tools, Remedy, Sharepoint – 31 total apps)</li> <li>•Database Administration, Development &amp; Support (Support for EMS, MMS, OS, CRR, NMMS, Commercial systems, MIS, EIP, misc.)</li> <li>•Manage IO projects</li> </ul>



# Task Analysis

# Application Services

- **Function:**

- Provide application development in support of the following ERCOT functional areas:
  - Network Applications & EMS Platform
  - Generation Applications, NMMS and Interfaces
  - Markets & Outage Scheduling

- **Skillsets:**

- Staff comprised of developers skilled in not only relevant programming languages but also possessing specialized knowledge of power systems management applications and ERCOT business processes

Application development in support of Energy Management and Market Systems in three areas:

## 1) Network Applications & EMS Platform Applications

- **EMS upgrade**
- **Forced Outage Detection**
- **Resource Limit Calculator Application**
- **Wind Generation Interface**
- State Estimator
- Real Time and Study Network Applications
- Contingency Analysis Application
- Transmission Constraint Management Applications
- Voltage & Transient Stability Application
- Dynamic Ratings Application
- Adaptive Load Modeling
- SCADA
- Alarm Management System
- Archiving Interfaces (PI and EDW)
- EMS High Availability System

Note: New and Nodal impacted applications are highlighted in bold blue text



Application development in support of Energy Management and Market Systems in three areas:

## 2) Generation Applications, NMMS and Interfaces (cont)

- **NMMS/Information Model Manager**
- **NMMS/TNA (Transmission Network Application)**
- **Base Point Calc (LMP)**
- **Operator Training Simulator**
- Regulation
- Non Spin deployment monitoring
- OATI/WebTrans Interface (DC Tie)
- Weather Data Feed Processing
- PRT Forecast Processing
- Development Environment management
- MOTE (Market Operations Testing Environment) Support
- Texas Regional Entity/Compliance Development Support
- Load Forecast
- Load Frequency Control
- Reserve Monitoring
- Ancillary Service Capacity Monitoring
- Responsive Reserve

Note: New and Nodal impacted applications are highlighted in bold blue text

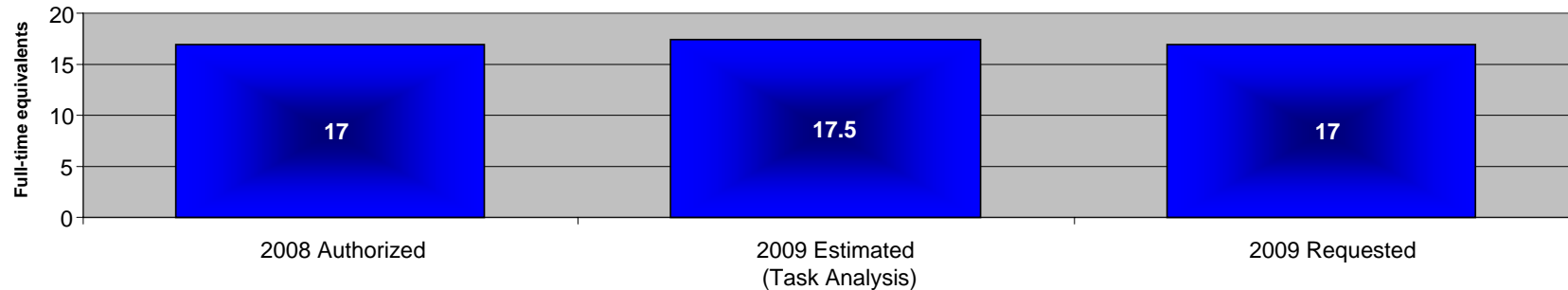
Application development in support of Energy Management and Market Systems in three areas:

## 3) Markets & Outage Scheduling

- **DAM (Day Ahead Market)**
- **CRR (Congestion Revenue Rights)**
- **Outage Scheduler (full replacement)**
- **RUC (Reliability Unit Commitment)**
- **SASM (Supplementary Ancillary Services Market)**
- RPRS (Replacement Reserves)
- Ancillary Services
- Settlement Interface
- IMM/PUCT Tools Support

Note: New and Nodal impacted applications are highlighted in bold blue text

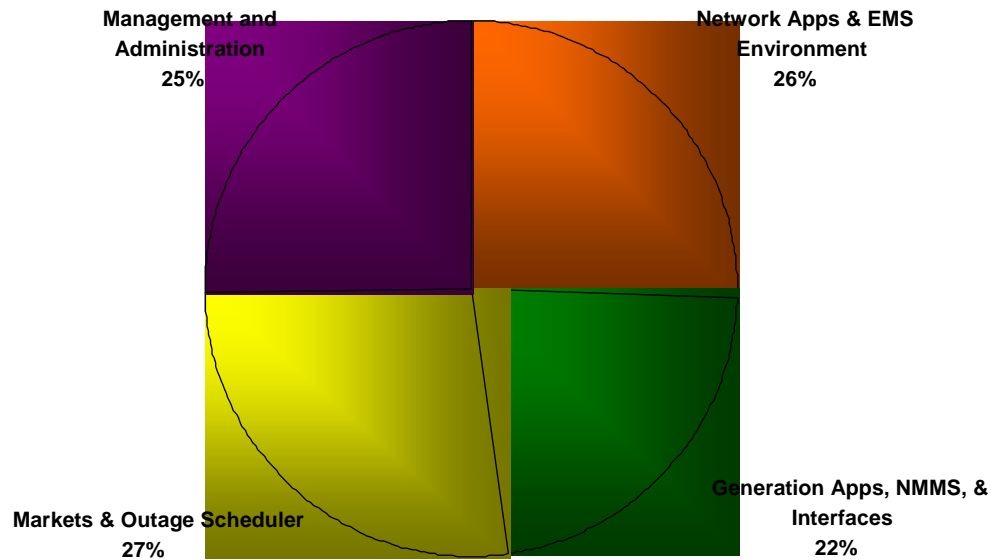
# Dept. 345 – EMMS Development Headcount Overview



## Summary Points

1. EMMS development is heavily engaged in the Nodal effort, only two developers are concentrating on Zonal efforts.
2. Recruiting has been a challenge, requiring staff augmentation with contractors to meet Nodal development needs.
3. Of the 14 current FTEs in EMMS development, seven have PhDs, two are UT PhD candidates, and all have their masters degree.
4. Work required beyond the requested staffing level will be accomplished with overtime.
5. EMMS development is requesting 17 FTE for 2009.

# Dept. 345 – EMMS Development Allocation by Function



## Key Points

- ❑ New applications added and new functionality to accommodate Nodal market
- ❑ Increasing complexity of the Market Management System and the Network Model Management System

- **Function:**
  - The Enterprise Integration development team develops and maintains integration points between applications that allow data to transfer between systems
- **Skillsets:**
  - Application development knowledge enhanced with specialized integration programming skills
- **Nodal impact on staffing:**
  - The design of the Nodal systems heavily impacts this group. To date this group has focused on the integration of the systems that makeup the retail platform. With Nodal, this group will develop and manage integration applications touching each of the Nodal systems (EMS, MMS, NMMS, CRR, CMM and Settlements & Billing)

## **Develop and maintain integration points between applications and systems:**

### **1) Retail Integrations**

- Maintenance and enhancements to retail business process integration applications

### **2) External Web Services**

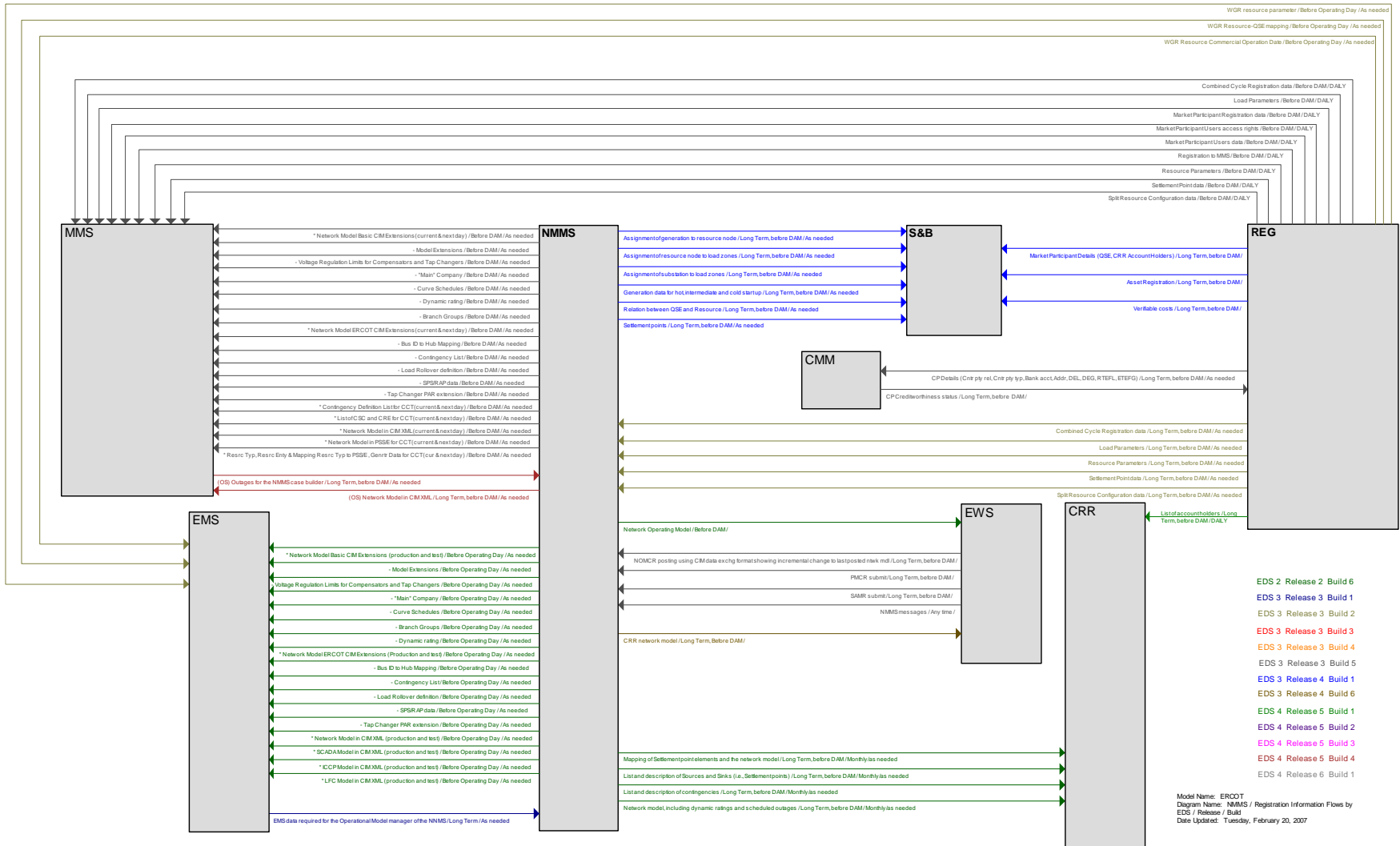
- Develop, support and enhance web services and policy management

### **3) New Functionality in support of the Nodal Market**

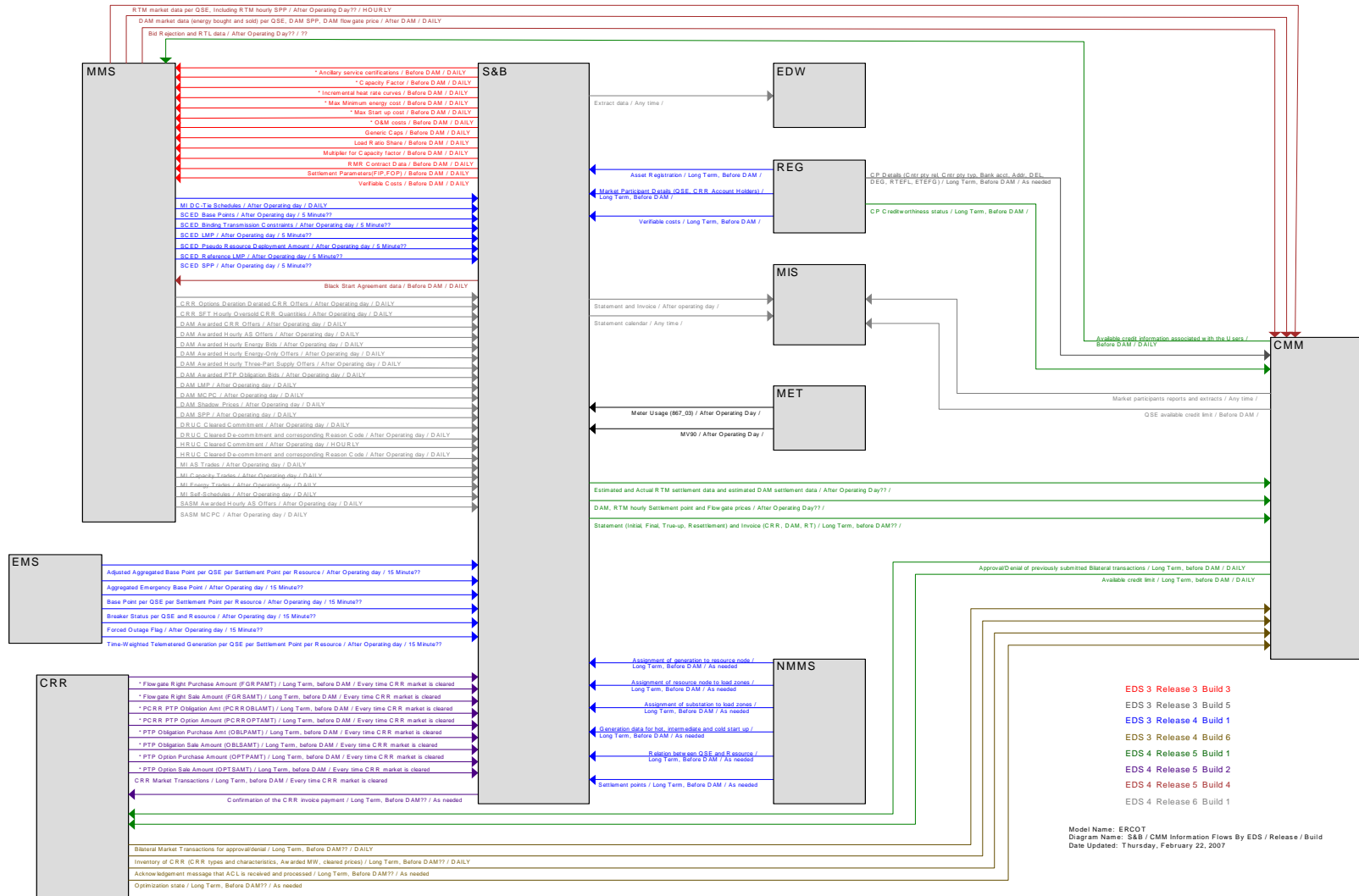
- Develop, support and enhance MMS interfaces
- Develop, support and enhance CRR interfaces
- Develop, support and enhance EMS/NMMS interfaces
- Develop, support and enhance COMS interfaces (Settlements & Billing, CMM & registration)
- Configuration management support
- 100 new web services for Nodal
- 300 application to application integrations for Nodal

# Nodal Integration Points

## NMMS / Registration Information Flows by EDS / Release / Build



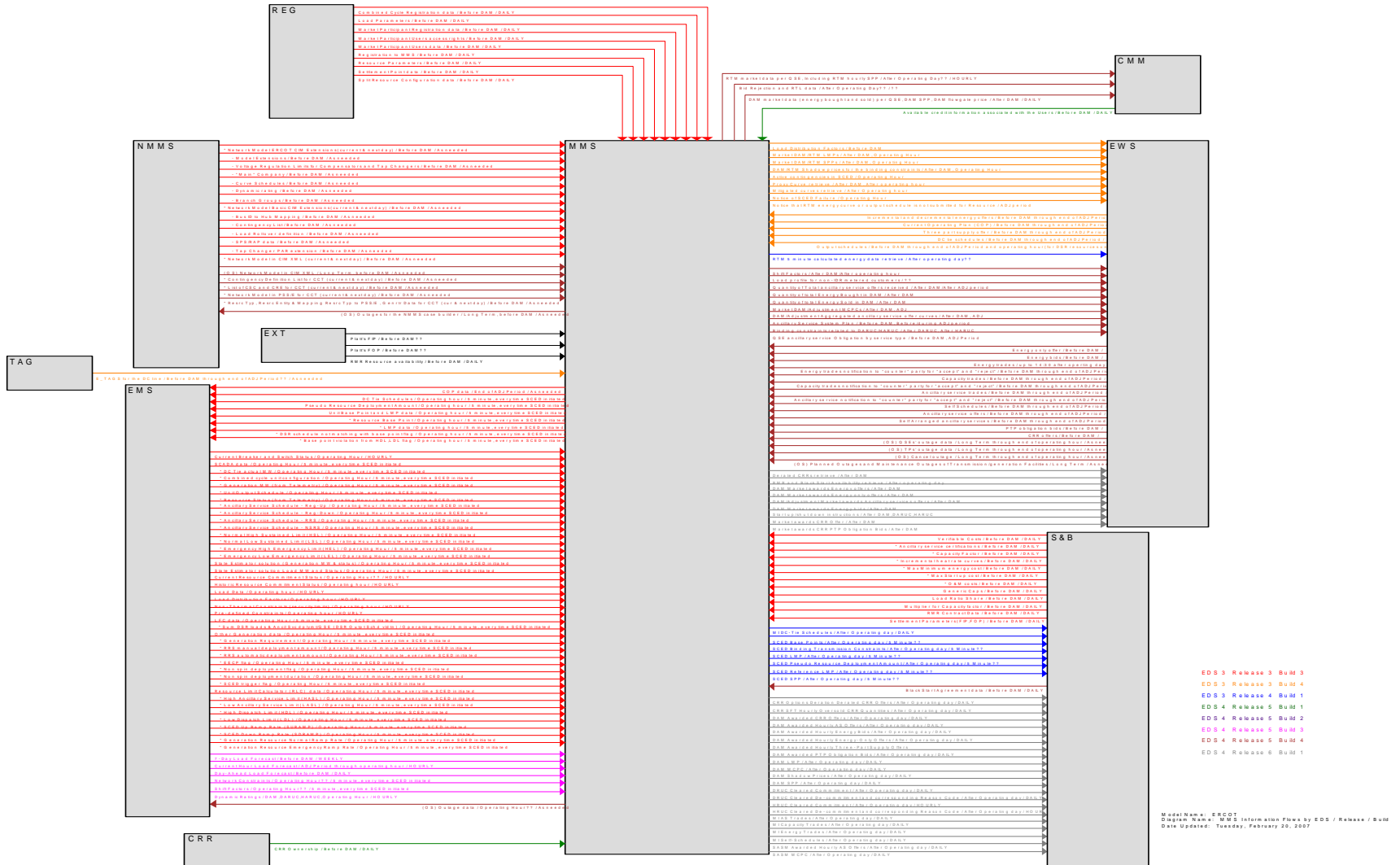
## S&B / CMM Information Flows By EDS / Release / Build



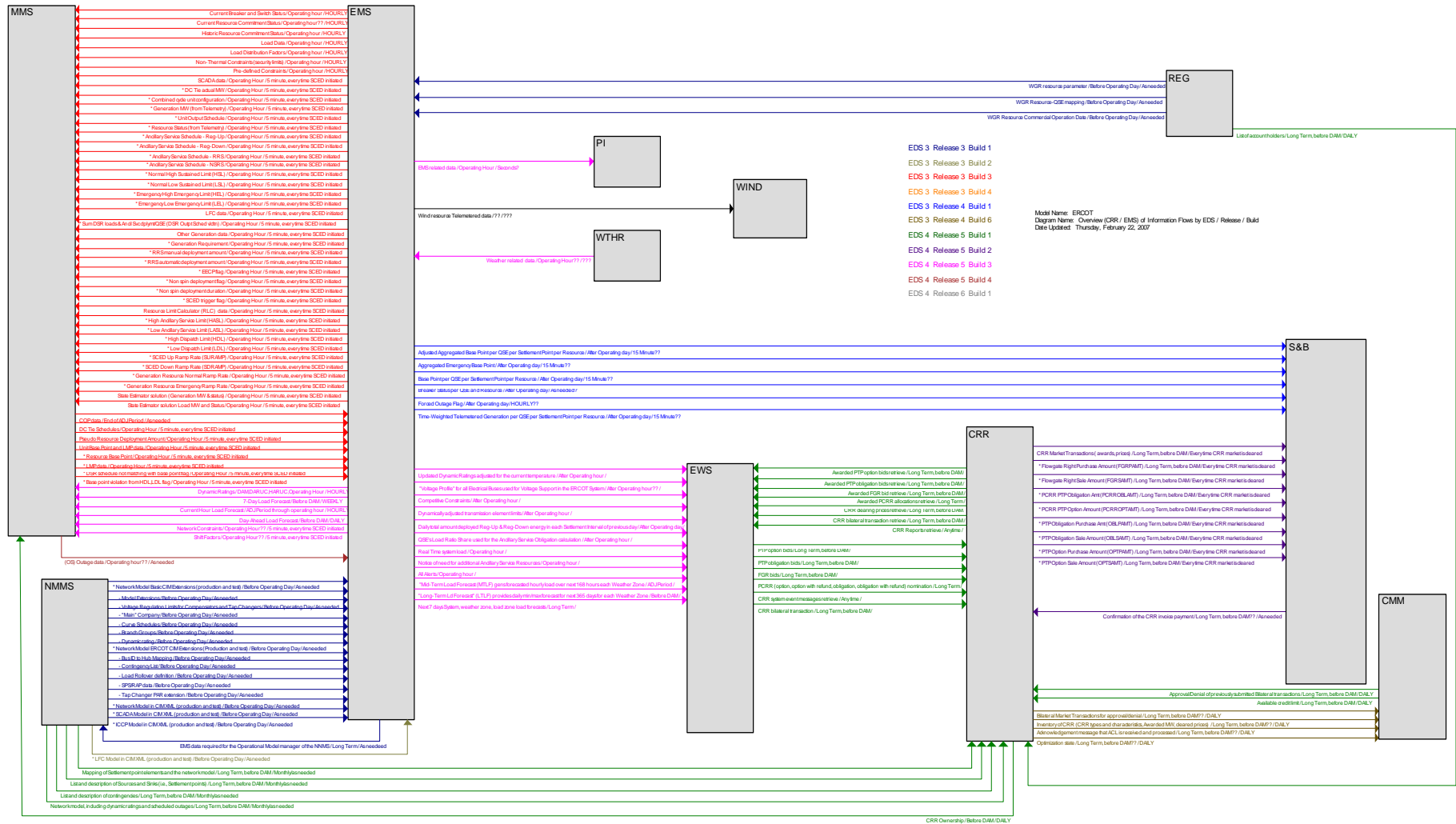


# Nodal Integration Points

## MMS Information Flows by EDS / Release / Build

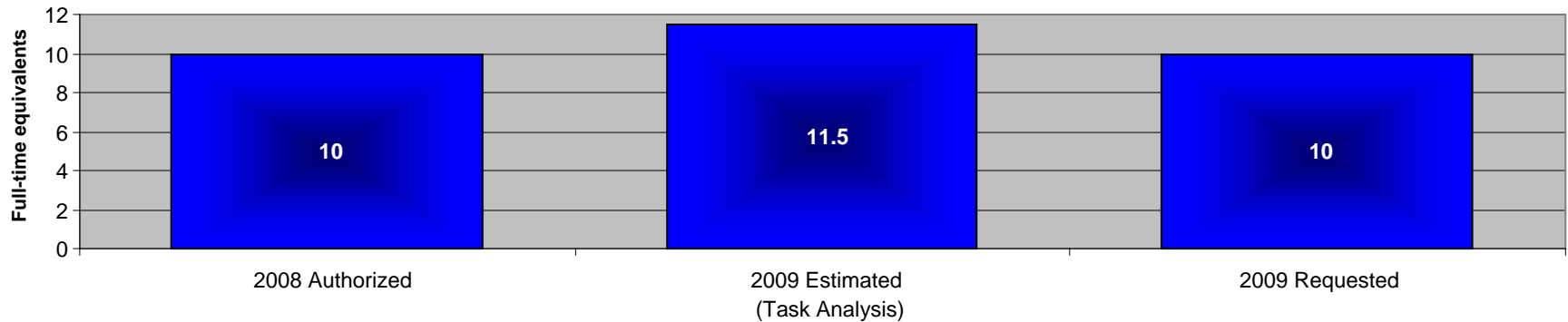


## Overview (CRR / EMS) of Information Flows by EDS / Release / Build



# Dept. 347 - Enterprise Integration

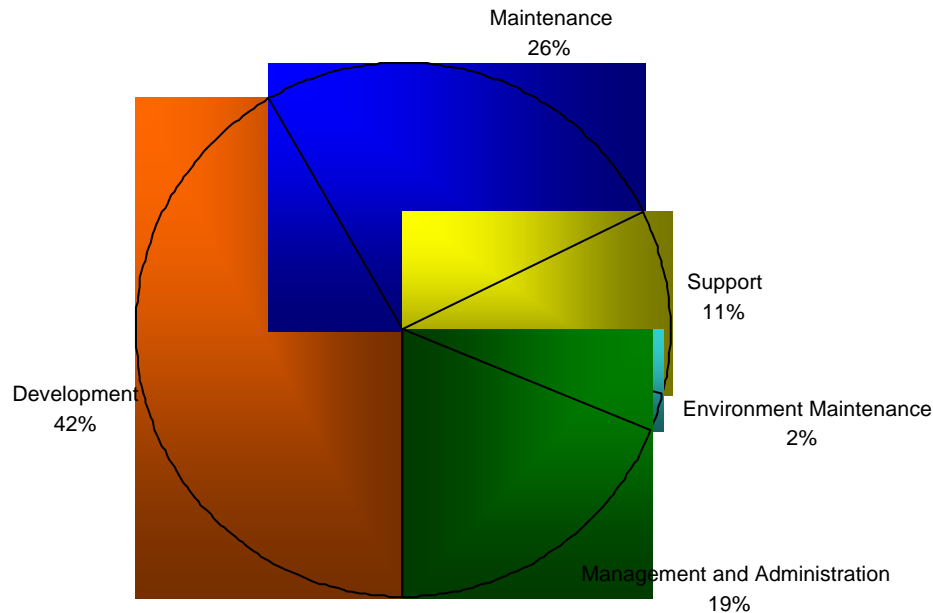
## Headcount Overview



## Summary Points

1. The Enterprise Integration department was created in 2005 as ERCOT moved to a service oriented architecture with the replacement of SeeBeyond with TIBCO as the middleware platform.
2. The Nodal market systems are integrated with technology developed and supported by this department.
3. Recruiting has been a challenge as the skillset is very niche and demand is high.
4. Work required beyond the requested staffing level will be accomplished with overtime.
5. Enterprise Integration is requesting 10 FTE for 2009.

# Dept. 347 - Enterprise Integration Allocation by Function



## Key Points

- ❑ 100 new web services for the Nodal systems
- ❑ 300 application integrations in the Nodal systems
- ❑ Nodal development effort is augmented with 50-60 development resources

# Dept. 354 - Enterprise Information Services - Overview

- **Function:**

- The EIS department provides data archiving, business intelligence, decision support, and other data services
- EIS fulfills ERCOT's responsibility to store near real-time and historical information for data extraction, reporting, analysis, and decision support for market oversight by the PUCT and IMM, data delivery for market participants and their systems, and analysis by ERCOT

- **Skillsets:**

- Staff skillsets include database administration, database and application development and production support

## **Data archiving, business intelligence and decision support. Organizationally divided into three areas of focus:**

### **1) Production Support**

- Support production reports, extracts, collateral calc, parsing, DDM

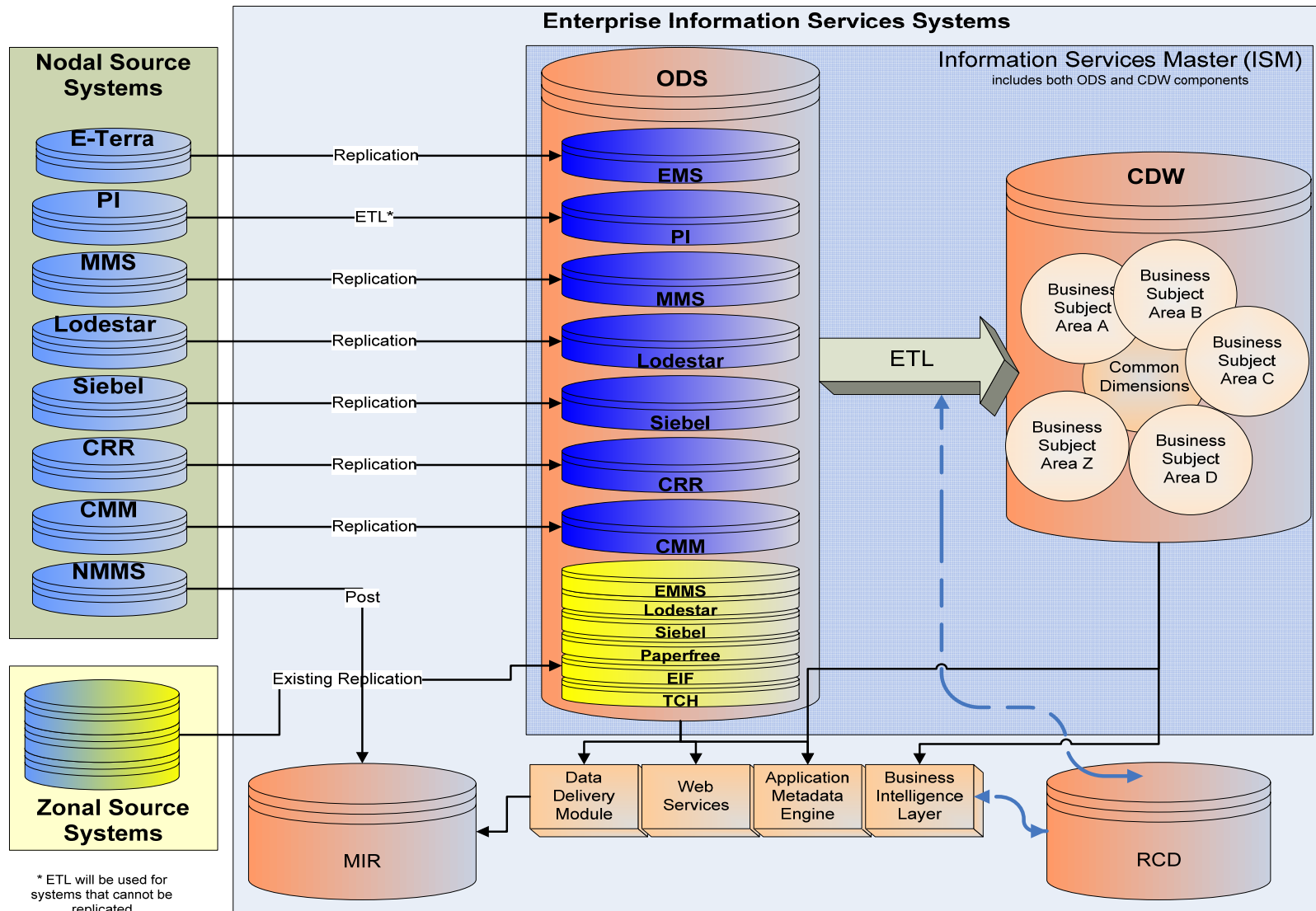
### **2) Core Development – Business Intelligence**

- Generate, support and maintain reports and extracts in Cognos ReportNet

### **3) Database Architecture and Administration**

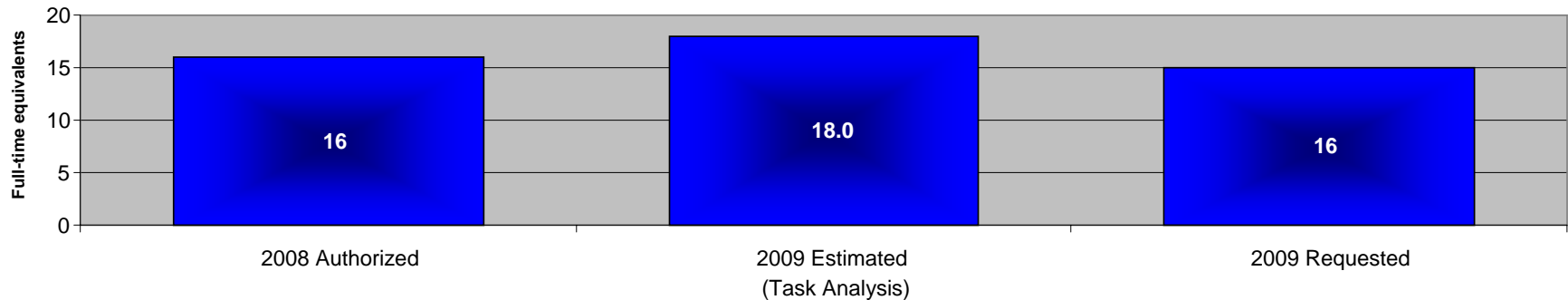
- Architecture roadmap & migration planning
- Establish, maintain and support massive databases
- Replication

# EDW Environment



# Dept. 354 - Enterprise Information Services

## Headcount Overview



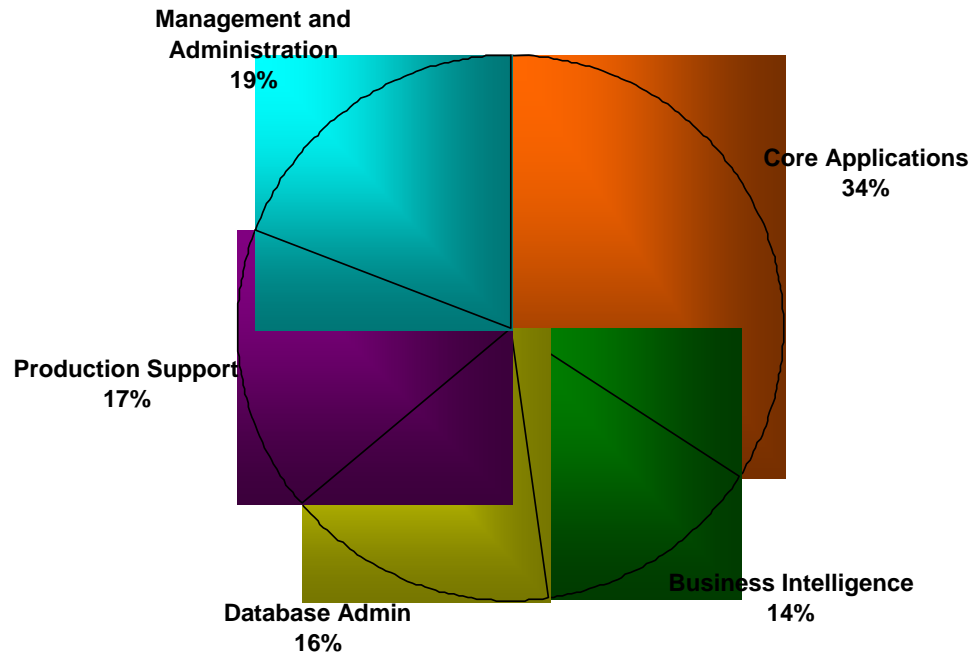
## Summary Points

1. The EIS team develops and supports extract and report generation for system operations, market operations, and retail information.
2. The EIS systems generate approximately 2,000 extracts and replicates 25 – 35 million rows of data daily.
3. Work required beyond the requested staffing level will be accomplished with overtime.
4. EIS is requesting 16 FTE for 2009.



# Dept. 354 - Enterprise Information Services

## Allocation by Function



### Key Points

- ❑ Team currently has database administrators, developers as well support personnel
- ❑ Extracts and reports are key to market participant internal processes including shadow settlement
- ❑ IMM and PUCT rely on market data managed by the EIS team

- **Function:**

- Commercial Services is the development team responsible for designing, coding, implementing, and maintaining the systems that support the retail deregulated electric market and wholesale settlements and billing

- **Skillsets:**

- Application architecture and development skills in several specialized application areas including Siebel, Lodestar, Paperfree
- Java, XML, Perl scripting, Electronic Data Interchange (NAESB), SQL development skills

## Develop and maintain retail market and settlement & billing systems

### 1) Retail Market Systems

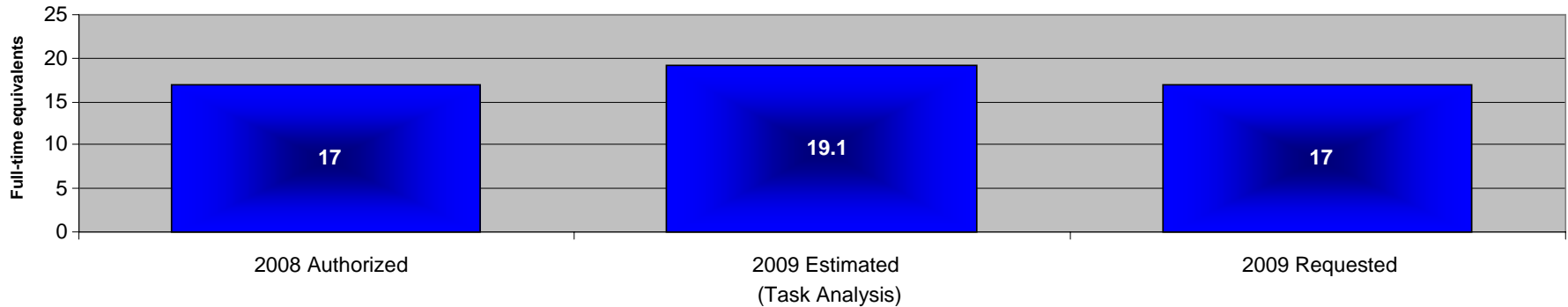
- NAESB EDM
- PaperFree
- ESIID tracking system (ETS)
- Load Research Sampling (LRS)
- Market Operations Monitoring System (MOMS)
- Potential Load Loss
- MarkeTrak User Interface
- MarkeTrak API
- Siebel eEnergy
- Siebel eService

### 2) Wholesale Systems

- Settlements (Day ahead)**
- Settlements (Real time, RUC)**
- Invoice (Real time)
- Invoice (Day ahead)**
- Invoice (CRR)**
- AppWorx (Batch processing)**
- Data Aggregation
- CSI**
- Credit Monitoring and Management**
- Usage Loading
- Lodestar**

Note: New and Nodal impacted applications are highlighted in bold blue text

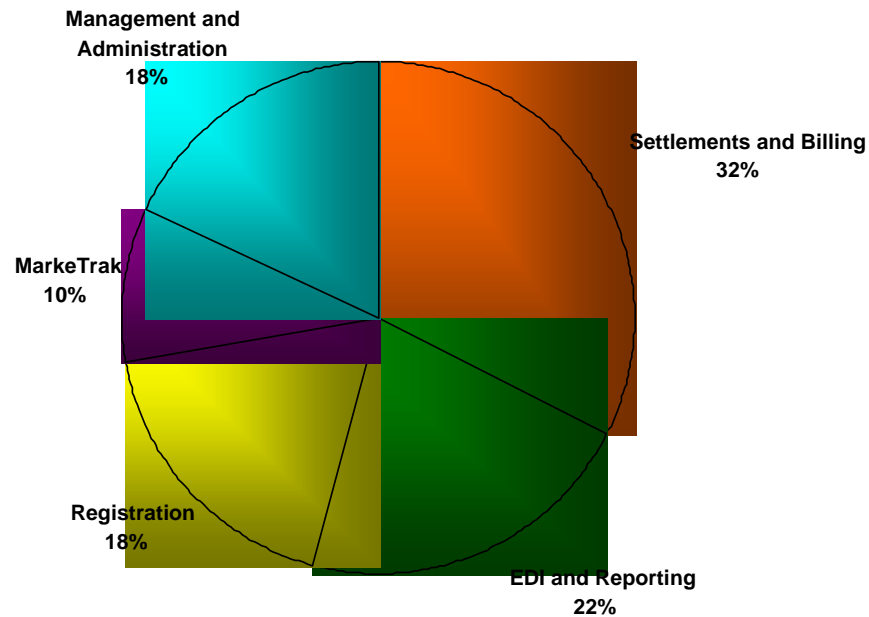
# 356 - Commercial Services Headcount Overview



## Summary Points

1. Commercial Services implements and maintains the systems that support the retail market and settlements and billing.
2. The current FTE request for 2009 does not include any resources to accommodate any advanced metering initiatives.
3. Work required beyond the requested staffing level will be accomplished with overtime.
4. Commercial Services is requesting 17 FTE for 2009.

# 356 - Commercial Services Allocation by Function



## Key Points

- ❑ Four key areas include:
  - ❑ Settlements & Billing
  - ❑ EDI & Reporting (ETS)
  - ❑ Registration
  - ❑ MarkeTrak
- ❑ ~ 1M – 2M retail transactions processed daily

- **Function:**

- The Corporate Applications department provides technical support, problem resolution, enhancements, upgrades, configuration and integration for ERCOT corporate applications
- In 2007, the Web and Data Services department was merged with Corporate Applications. Web & Data Services is responsible for supporting all Web based applications and Portal operations including all code design, development, updates, enhancements and configuration

- **Skillsets:**

- Application development
- Business process analysis
- Web application development

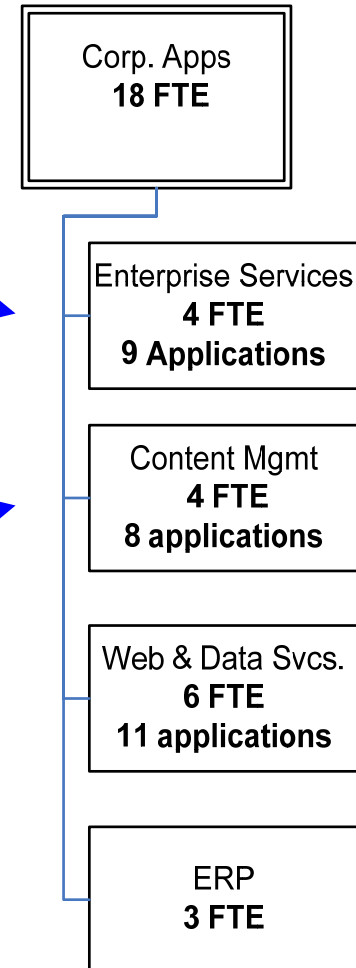
## Provide application development and production support:

### 1) Enterprise Services

- AIM
- Altiris
- Aperture View
- Aperture Vista
- ERCOT Internal Identity Management**
- Market Participant Identity Management**
- Audit Applications
- Mercury Test Tools
- IT Incident Reporting (Serena Team Track)
- Remedy**

### 2) Content Management

- Project Server
- SharePoint
- Serena Collage / ERCOT.com Production Process
- Vendor Contract Management Application
- Livelihood Enterprise Content Management**
- Intranet Document Manager
- Market Readiness Advisor**
- Outage Notification**
- Misc. Ruby on Rails Applications**



Note: new applications are highlighted in bold blue text

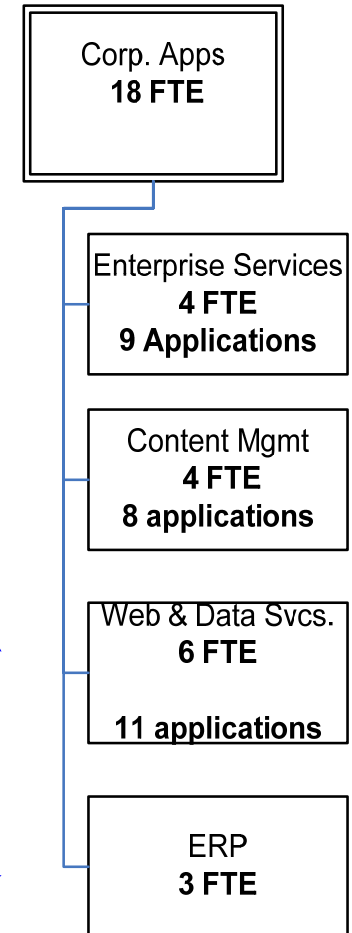
## Provide application development and production support:

### 3) Web & Data Services

- Portal (TML/**MIS**)
- Dynamic Ratings
- MOS Components
- Renewable Energy Credits (REC)
- MOS Public
- Retail on TML
- Outage scheduler (web components)
- PI app (web components)
- CVS (code versioning system – application development tool)
- Intranet Applications

### 4) Enterprise Resource Planning

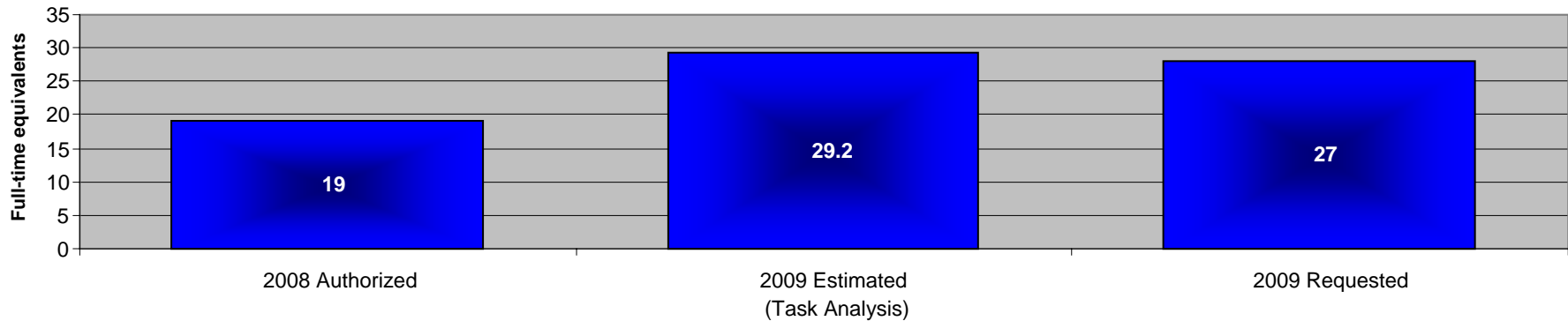
- Lawson (Financials, HR/Payroll, Procurement, Employee Self Service/Manager Self Service, PSA, Process Flow)
- Financial Transfer
- Budget Management**



Note: new applications are highlighted in bold blue text



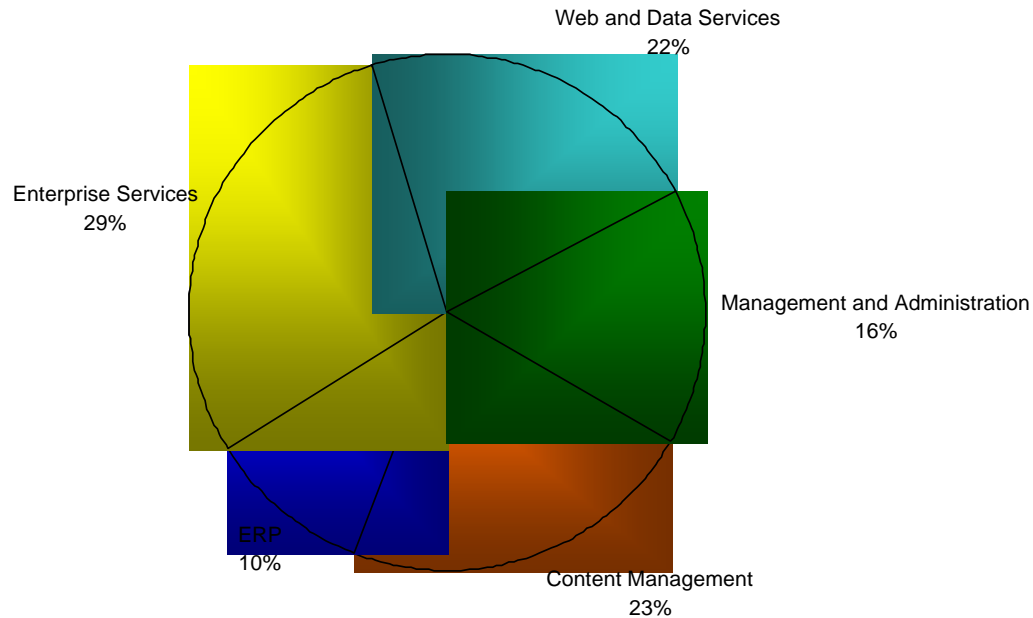
# 357 – Corporate Applications Headcount Overview



## Summary Points

1. Corporate Applications has seen significant growth in the number of applications supported. This group provides the application development ,administration and production support for ERCOT internal applications.
2. Continuing to operate this group at what we view to be an understaffed level could hamper ERCOT's ability to successfully utilize technology to meet ERCOT corporate objectives.
3. Work required beyond the requested staffing level will be accomplished with overtime.
4. Corporate Applications is requesting 27 FTE for 2009.

# 357 – Corporate Applications Allocation by Function



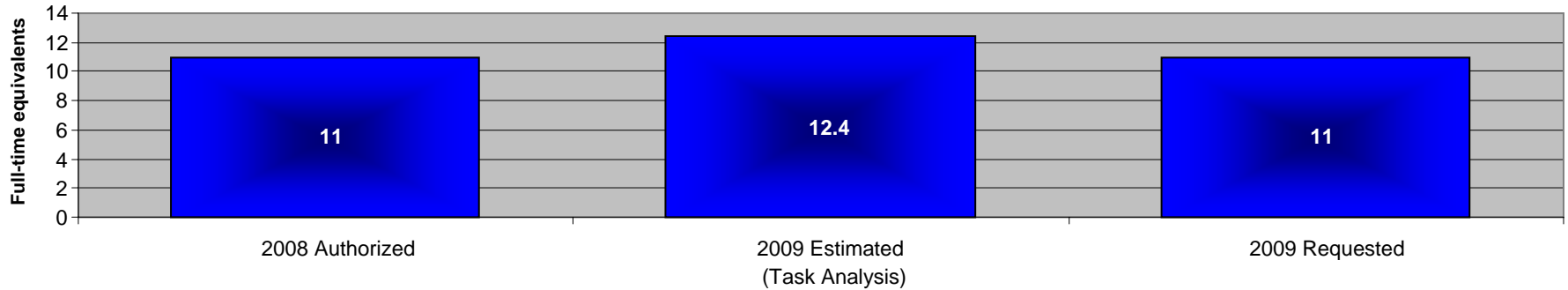
## Key Points

- ❑ Four key areas are:
  - ❑ Enterprise Services
  - ❑ Content Management
  - ❑ Web & Data Services
  - ❑ ERP (Enterprise Resource Planning)

- **Function:**
  - The database administration team provides support for all production, test and development database environments. This includes database design, development, testing, monitoring, performance tuning and backup/recovery activities
- **Skillsets:**
  - Oracle and SQL database design and administration skills
  - Database monitoring, tuning, and capacity planning
  - 24 x 7 on-call troubleshooting and problem resolution

# 360 – Database Administration

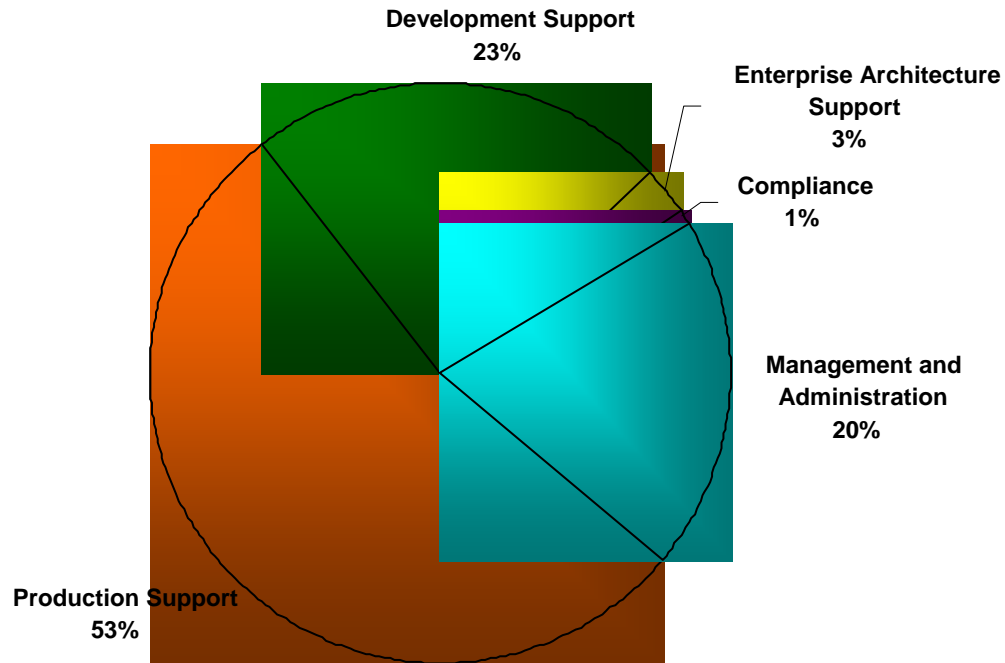
## Headcount Overview



### Summary Points

1. Database Administration is responsible for the development, monitoring and support of all Oracle and SQL databases at ERCOT.
2. Work required beyond the requested staffing level will be accomplished with overtime.
3. Database Administration is requesting 11 FTE for 2009.

# 360 – Database Administration Allocation by Function



## Key Points

- ❑ The DBA team supports over 140 Oracle databases and 298 SQL databases

# Infrastructure & Operations

- **Function:**

- System Engineering & Administration provides the implementation, management and administration of all services within the following areas; Windows and Unix administration, data protection and retention services, and management of all desktop computing
- Additional responsibilities include
  - Tactical capacity planning for ERCOT IT
  - System configuration and patch management
  - Virus protection
  - SPAM management
  - Disaster recovery execution

- **Skillsets:**

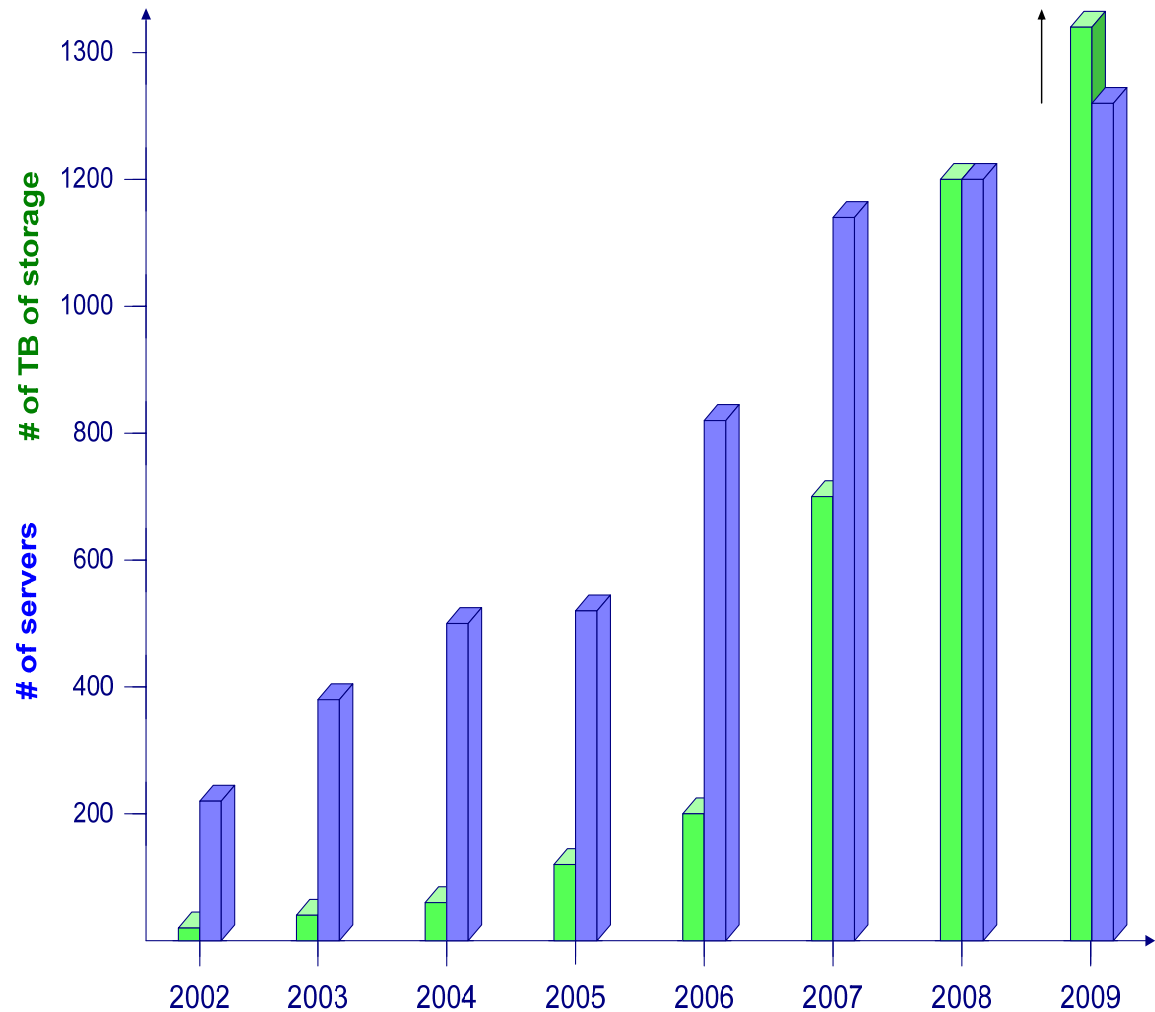
- Tru-64, AIX, Linux & Windows administration

- **Significant server growth due to Nodal implementation**
  - 280% growth in Unix servers (UX, AIX & Linux)
  - 188% growth in Windows servers (Blades & Virtual Servers)

	Pre-Nodal	Post-Nodal	Industry staffing benchmark	Post-Nodal ERCOT staff levels
UNIX & Linux	140	400	12 servers per FTE	100 servers per FTE
x86 (Windows)	400	750	33 servers per FTE	150 servers per FTE



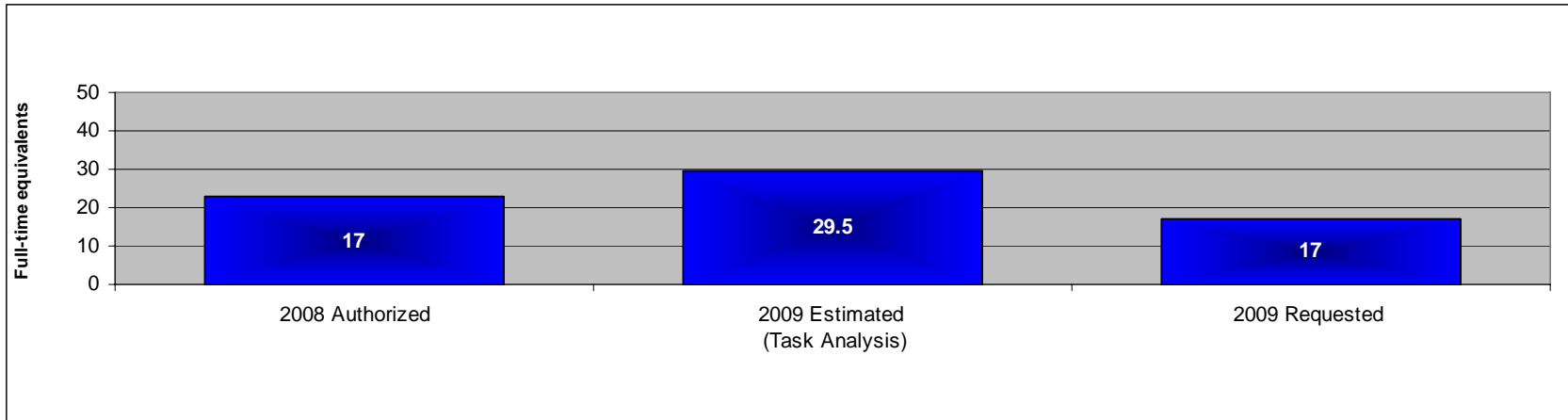
- Server growth at ERCOT is significant
  - 2002 = 240 servers
  - 2007 = 1150 servers



- **Additional complexity in the Nodal environment:**
  - AIX HACMP (High Availability Cluster Multi-Processing) is more difficult and time consuming to administer
    - Implemented on approximately 80% of the post-nodal environment
  - Virtual Machines
    - While quicker to deploy and maintain, requires a higher level skill set from system engineers
  - EMS clustering across blade chassis
    - ERCOT is one of first organizations to utilize this technology in this way – requiring a higher level skill set from system engineers
  - LPAR (Logical Partitions)
    - Utilization of LPAR's vs. hard partitions on UX servers or standalone servers requires a higher level skill set from system engineers
  - Tripwire
    - Configuration audit and control tools
  - IBM Director
    - Systems management and monitoring tools

# 310 – System Administration & Engineering (Servers)

## Headcount Overview

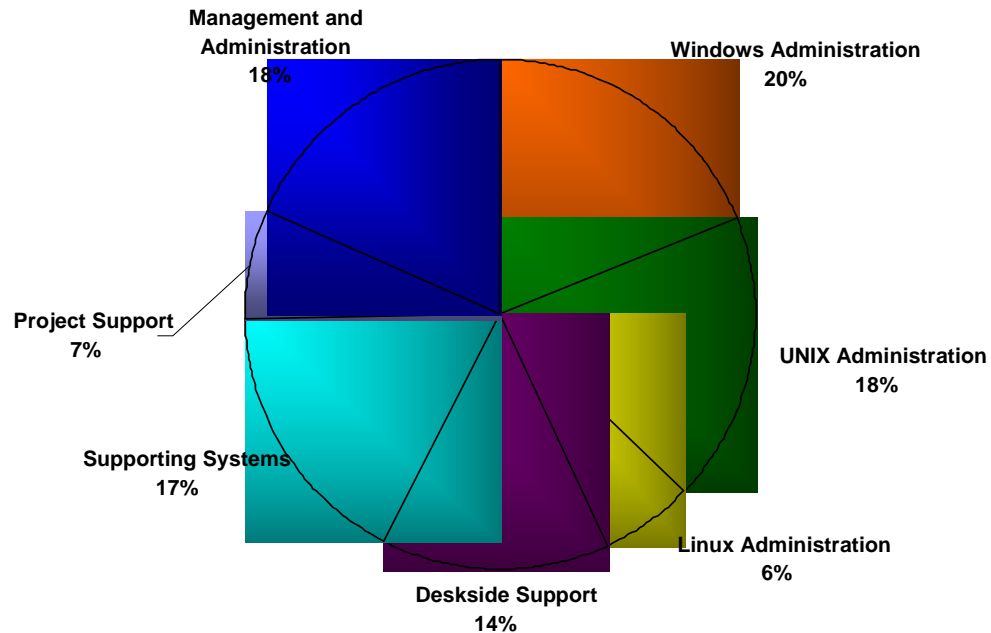


## Summary Points

1. Estimating workload using a task based vehicle for IT operations resulted in FTE estimates that were higher than expected. The difficulties were encountered when attempting to determine time required for problem and incident management. Due to the varying nature of these incidents, the time required to remedy varied greatly.
2. System Engineering anticipates being able to use improved toolsets and automation to reduce cycle time for tasks, and this reduction is not reflected in the task analysis estimate due to the uncertainty of the actual labor that will be saved.
3. System Engineering will continue to automate work processes and utilize new management tools (IBM Director, Tripwire, etc...) to improve productivity.
4. System Engineering is requesting 17 FTE for 2009.

# 310 – System Administration & Engineering (Servers)

## Allocation by Function



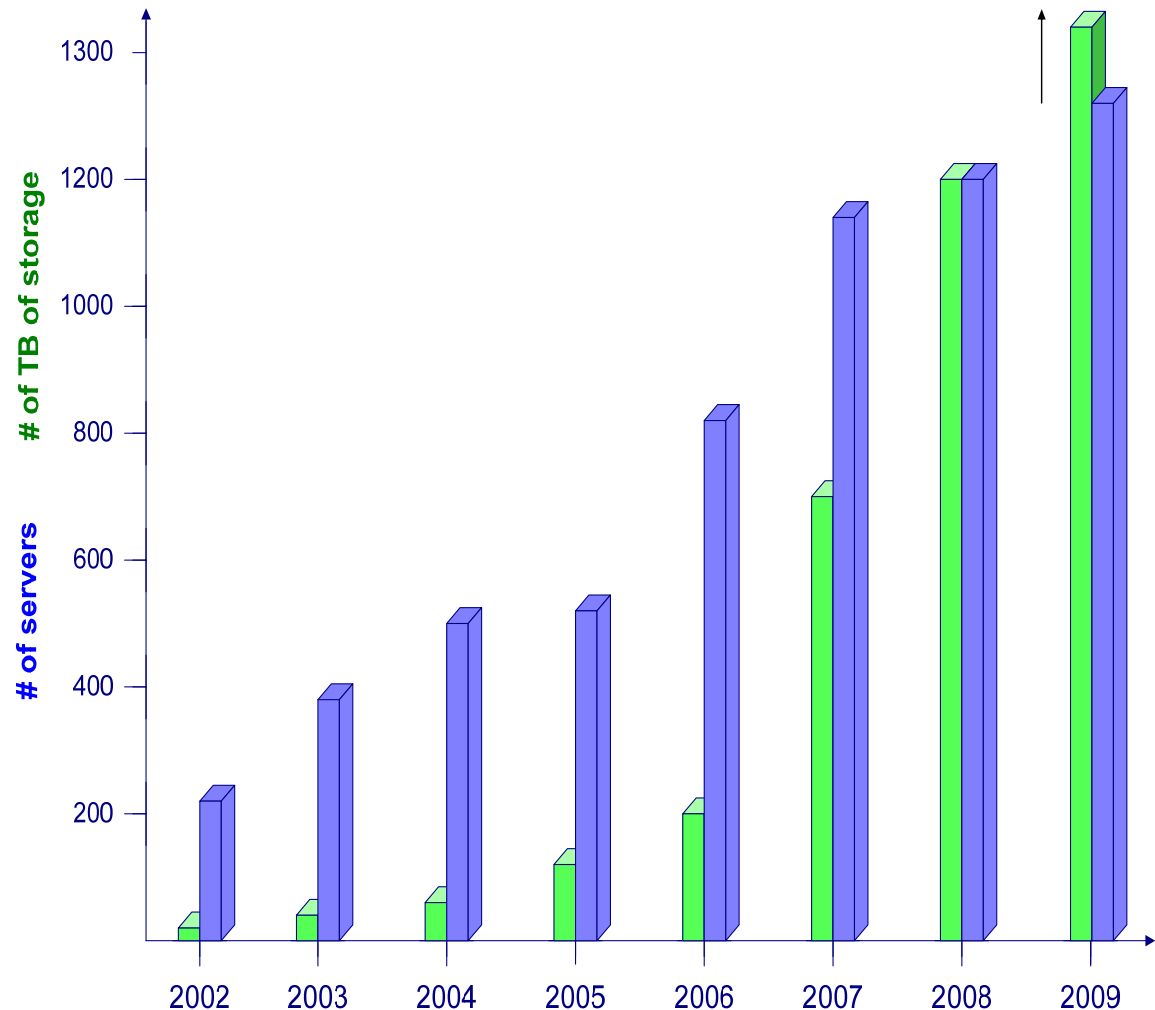
### Key Points

- ❑ System Engineering has experienced significant growth in the number and complexity of servers and environments they support.
- ❑ System Engineering has a senior and experienced team of engineers, a one-for-one replacement of these senior staff with new hires would not be expected.
- ❑ Many of the servers are not production systems facilitating the market, but are testing and development systems with lower availability requirements and longer recovery requirements.
- ❑ ERCOT's System Engineering staff experience enables them to support many more systems than a staff of less experienced engineers could support.

- **Function:**
  - System Administration & Engineering (storage) provides integrated data storage, storage area networks and backup/restore services to all computer servers at ERCOT
- **Skillsets:**
  - SAN administration, configuration and provisioning
  - SAN architecture and design
  - Database backup & recovery

# Dept. 310 - Server & Storage Growth

- Storage growth at ERCOT is significant
- Currently near 700TB of data...from 6TB in 2001



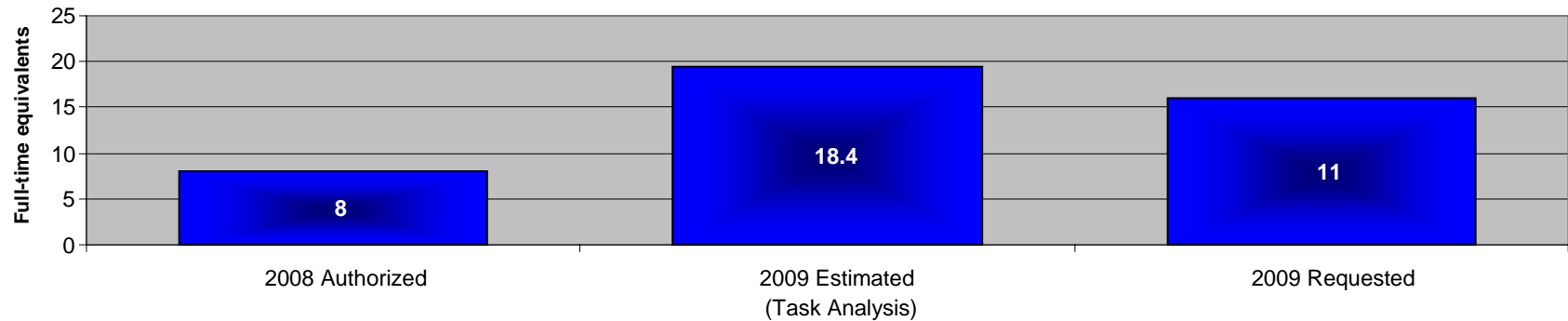
- **Why the growth? The way ERCOT utilizes and retains market data**
- **Exponential growth of 1 Terra Byte of requested storage for each market source system**
  - Example...a 1 TB storage request for Lodestar data results in 14TB of total storage being used

For Lodestar, the breakdown is like this...1TB request =

- 1 TB Production
- 1 TB DR
- 2 TB iTest (iTest requires two copies)
- 1 TB pTest
- 1 TB Development
- 1 TB ODS Production
- 1 TB ODS DR
- 1 TB ODS iTest
- 2 TB ODS Backup
- 2 TB Lodestar production backup
- 1 TB Archive

1 TB Source System Request	# of TB in PROD	# of TB in ODS	Eventual TB from a 1 TB request
Lodestar	7	7	14
Siebel	7	7	14
PaperFree	0	8	8
EMMS	0	8	8
EIF	7	8	15

# Dept. 310 – System Administration & Engineering (Storage) Headcount Overview

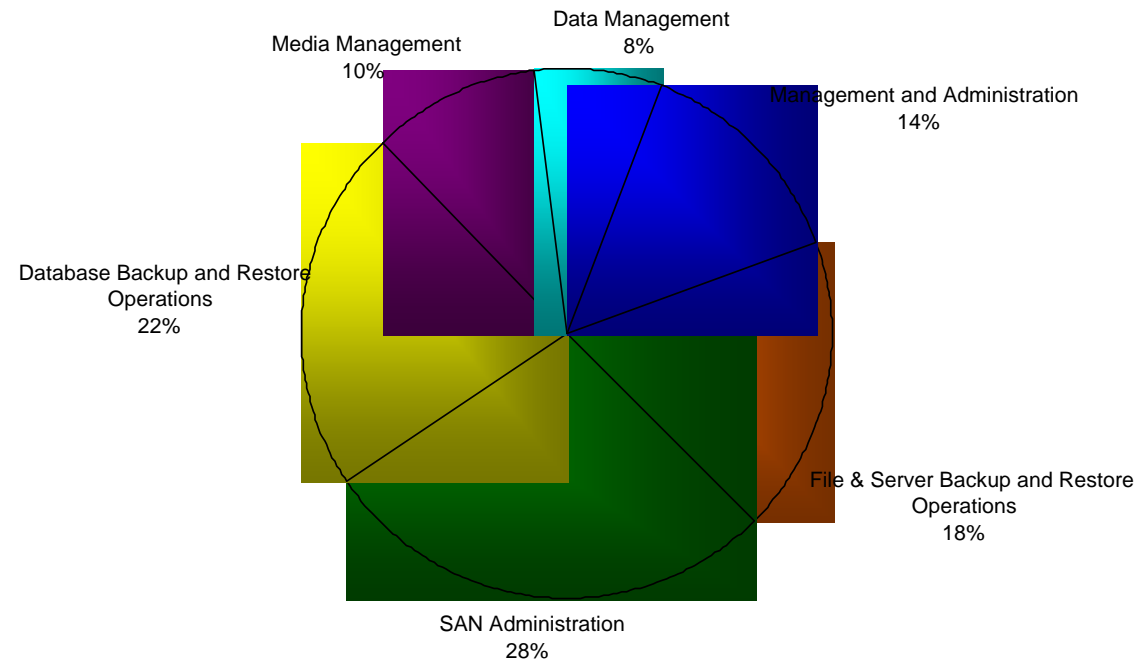


## Summary Points

1. The complexity and size of the storage environment has significantly increased in the last five years. Failures in the storage environment can severely impact ERCOT operations.
2. Investment in adequate staff levels, proper management tools, and storage equipment infrastructure is viewed as critical to ongoing ERCOT internal and market operations.
3. Work required beyond the requested staffing level will be accomplished with overtime and contracted labor.
4. System Administration & Engineering (Storage) is requesting 11 FTE for 2009.



# Dept. 310 – System Administration & Engineering (Storage) Allocation by Function



## Key Points

- ❑ **Storage resource management has experienced significant growth in the size and complexity of the storage environment**
- ❑ **Effective management of the storage function is key to the success of ERCOT internal and market operations**

# Dept. 330 - Networking & Telecommunications - Overview

- **Function:**

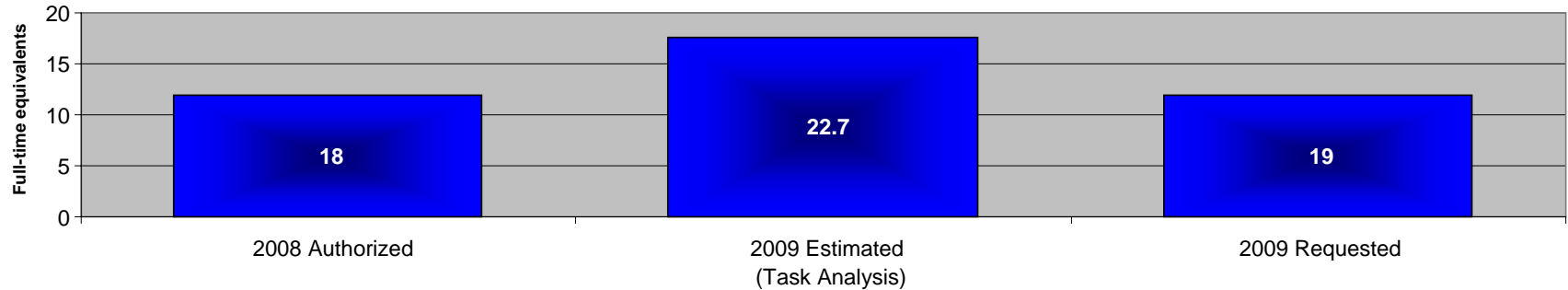
- The Network department is responsible for the networking/telecommunications aspects of the ERCOT infrastructure, and the management and support of the desktop computer environment at ERCOT.
- Telecommunications manages the wide area network that facilitates communication with ERCOT market participants. This group also administers all phone and voice communications within ERCOT. This includes conferencing, cellular signal propagation, PBX/voice mail support, and the DWDM (dense wavelength-division multiplexing) system for cross-site communications
- This department manages the desktop computing environment at ERCOT
- Networking supports communications between networked systems in the datacenter. The Networking group also maintains the firewalls, content switches, internet access, remote access, and wireless and wired networks

- **Skillsets:**

- Cisco and Juniper hardware administration, firewall, router, and switch administration
- PBX and optical/digital transport
- Desktop computer management skills and user support

# 330 – Networking & Telecommunications

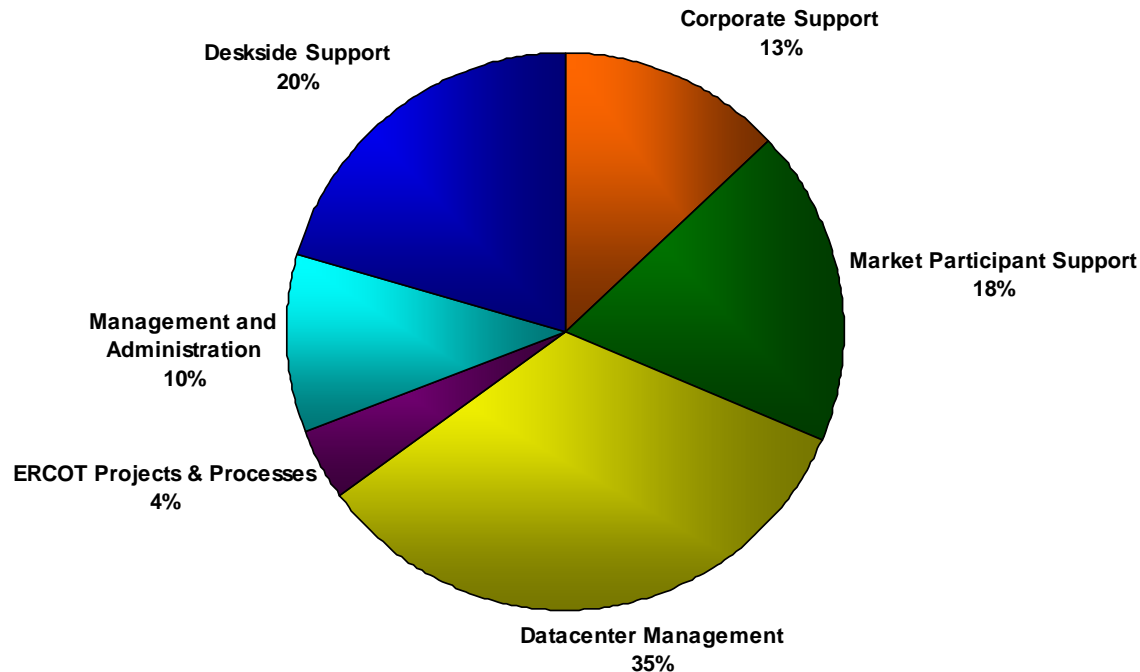
## Headcount Overview



## Summary Points

1. As the number of servers to support growing ERCOT and Nodal market needs increases, the need for networking and telecommunications infrastructure also increases.
2. This group implements security standards (NERC, ERCOT, Internal controls), and the networking environment is more complex due to these requirements.
3. The ERCOT WAN has added several market participant sites in the last few years, each requiring installation and management services – and ongoing monitoring.
4. Work required beyond the requested staffing level will be accomplished with overtime and contracted labor.
5. Networking and Telecommunications is requesting 19 FTE for 2009.

# 330 – Network Allocation by Function



## Key Points

- ❑ ~7,500 network ports managed
- ❑ ~14,000 firewall rules managed
- ❑ ~450 network devices managed
- ❑ ~75 firewall interfaces managed
- ❑ ~130 Market Participant WAN points managed

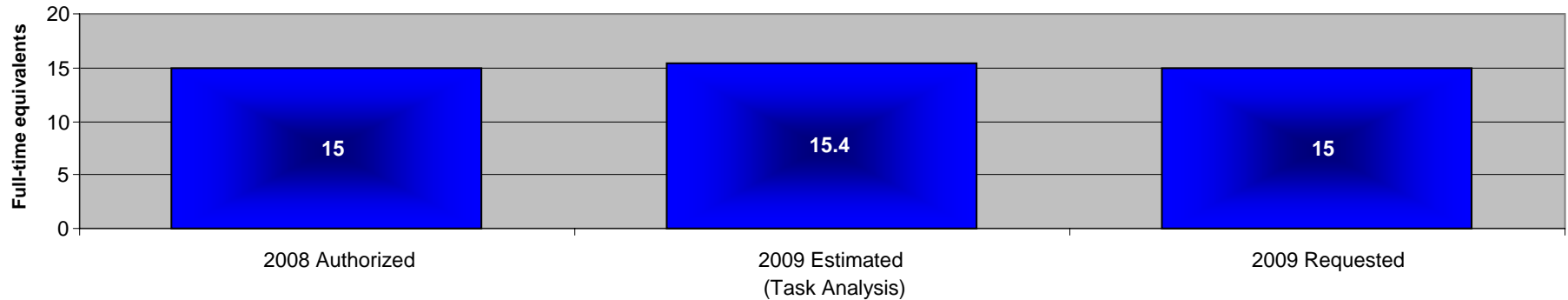
- **Function:**

- The main functions of Console Operations is system monitoring and first level incident management. In that capacity Console Operations serves as the primary point of contact for ERCOT internal employees and Market Participants for technology issues, commonly known as the 'Helpdesk'

- **Skillsets:**

- HP OpenView development and monitoring skills
- Incident and problem management skills
- Customer service skills

# 380 – Console Operations Headcount Overview

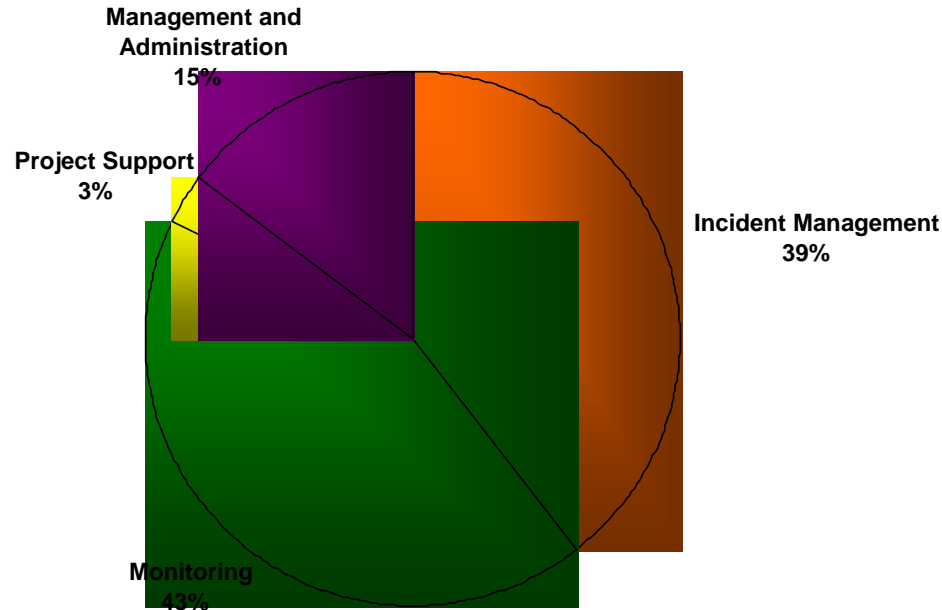


## Summary Points

1. Through rotating shifts, Console Operations maintains a 24x7 staff presence to field ERCOT and Market Participant calls for technology support.
2. Console Operations staffing levels and workload are expected to remain flat through 2009.
3. Console Operations is requesting 15 FTE for 2009.

# 380 – Console Operations

## Allocation by Function



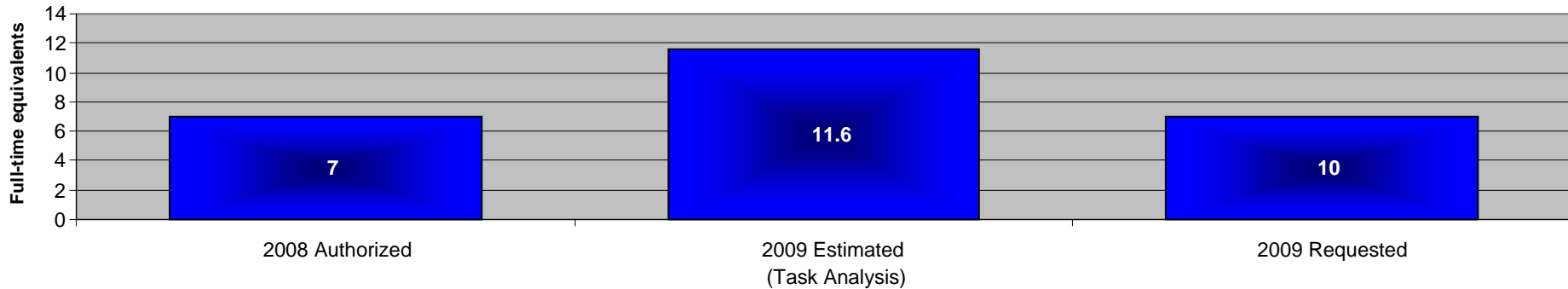
### Key Points

- ❑ Monitor the health of 350 – 400 production servers and all development servers
- ❑ Monthly average of 2,100 help calls and 2,300 help tickets
- ❑ Monitoring environment will be more complex and generate more alerts with the Nodal systems

- **Function:**
  - The Release Management department is responsible for tracking, scheduling, and coordinating changes to ERCOT test and production environments
  - Basic functions include
    - Develops and maintains release schedules for the organization
    - Facilitates Release Process from scheduling to post-implementation, inclusive of all test and production environments
    - Coordinates release plans, tasks, and resources
    - Maintains and ensure delivery of required documentation
  - Manage customer expectations of releases
    - Supports Operations/Production support for implementation planning activities
    - Facilitates Operational Change Control process
    - Coordinates Change Requests and facilitates Change Review Board Reviews and facilitates closing of Requests for Change (RFCs)
- **Skillsets:**
  - Release management, project management, software development lifecycle knowledge, quality assurance practices



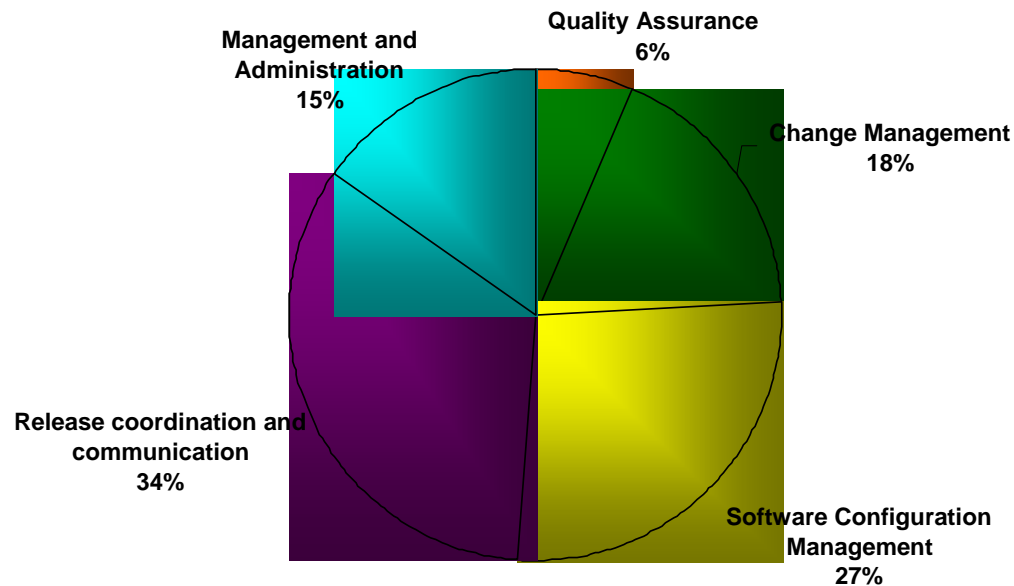
# 385 – Release Management Headcount Overview



## Summary Points

1. The Release Management department is responsible for coordinating and tracking production environment changes and bringing maturity and discipline to technology changes at ERCOT.
2. Release Management will attempt to manage the future anticipated workload through automation and process efficiencies.
3. Nothing enters the production environment without passing through this group.
4. Work required beyond the requested staffing level will be accomplished with overtime.
5. Release Management is requesting 10 FTE for 2009.

# 385 – Release Management Allocation by Function



## Key Points

- ❑ The best of breed implementation for Nodal adds an additional five environments which need to be controlled through Release Management
- ❑ SAS70 audit controls are enforced through the production control functions within Release Management

- **Function:**

- IT Commercial operations provides support for retail and wholesale applications and processes. These include retail transaction processing, web-based application support (MarkeTrak), Lodestar and wholesale batch operations, digital certificate administration, and delivery of market data via extracts and reports to market participants.

- **Skillsets:**

- Incident and problem management skills
- Application programming skills
- Batch processing operations

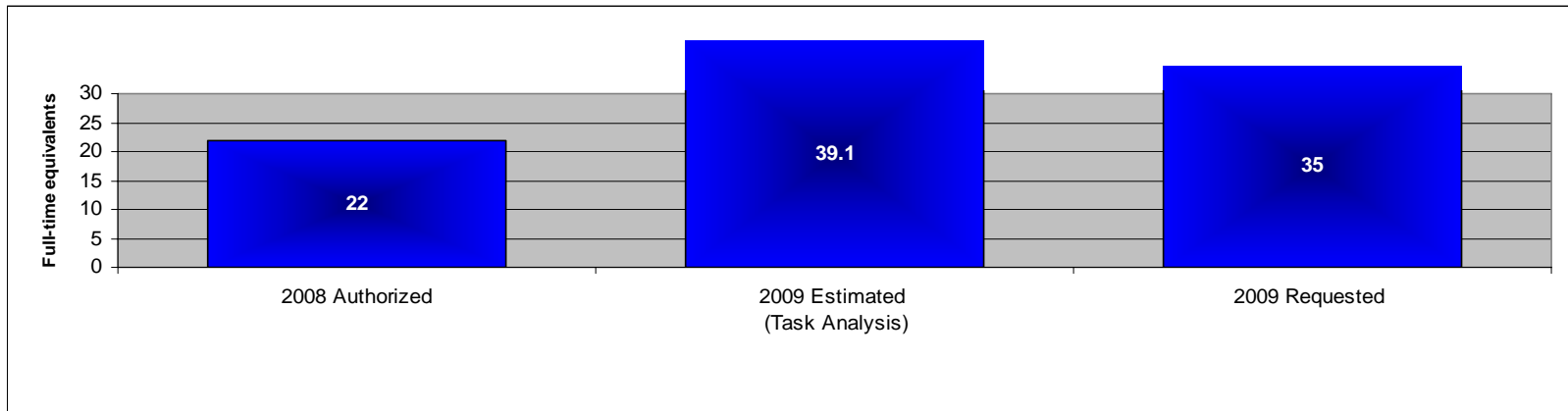
## **Pre-Nodal Operational Support:**

- **Deploy commercial and enterprise integration applications**
  - Real-time Retail Market transaction processing
    - North American Electric Standards Board (NAESB)
    - Electronic Data Interchange (EDI) – PaperFree
    - Enterprise Application Integration (EAI) – TIBCO
    - Customer Registration Database – Siebel
  - Web-based application support
    - Texas Market Link (TML)
      - Graphical User Interface (GUI)
      - Application Programmatic Interface (API)
    - Transmission Congestion Rights (TCR)
    - MarkeTrak – Issue resolution system
    - Digital Certificate Administration
      - ERCOT/Market Participant User Certificates
      - Server Secure Socket Layer (SSL) Certificates
    - DC-Tie web interface
    - Outage Scheduler web interface
    - Market Information Repository (MIR)
  - Wholesale Market application support
    - Wholesale Batch Operations
    - Lodestar application support
    - Extracts and Reports creation and delivery
    - Settlement Statements and Invoices creation and delivery
    - Market Information Delivery (MID) support
- **Maintain commercial applications and environments (iTest, Prod, Cert) – process System Improvement Requests**
- **Provide Level 2 support to all commercial applications**
- **Create and administer environments (iTest, Prod, Cert)**
- **Provide support to commercial operations audit requests - internal and external (SAS70, TRE-NERC, Securicon)**

- **Nodal Impacts to IT Commercial Operations:**
  - Additional Nodal application support
    - Market Information System (MIS)
      - Graphical User Interface (GUI)
      - Application Programmatic Interface (API)
    - Market Participant Identity Management (MPIM)
      - ERCOT/Market Participant User Certificates
      - Server Secure Socket Layer (SSL) Certificates
    - Credit Monitoring and Management (CMM)
    - Enterprise Integration Project (EIP)
    - Market Participant Registration
    - Market Participant Disputes
  - Additional environments to create and supported
    - iFat, EDS, FAT, IDev, PPM, Sandbox

# 390 – IT Commercial Operations

## Headcount Overview

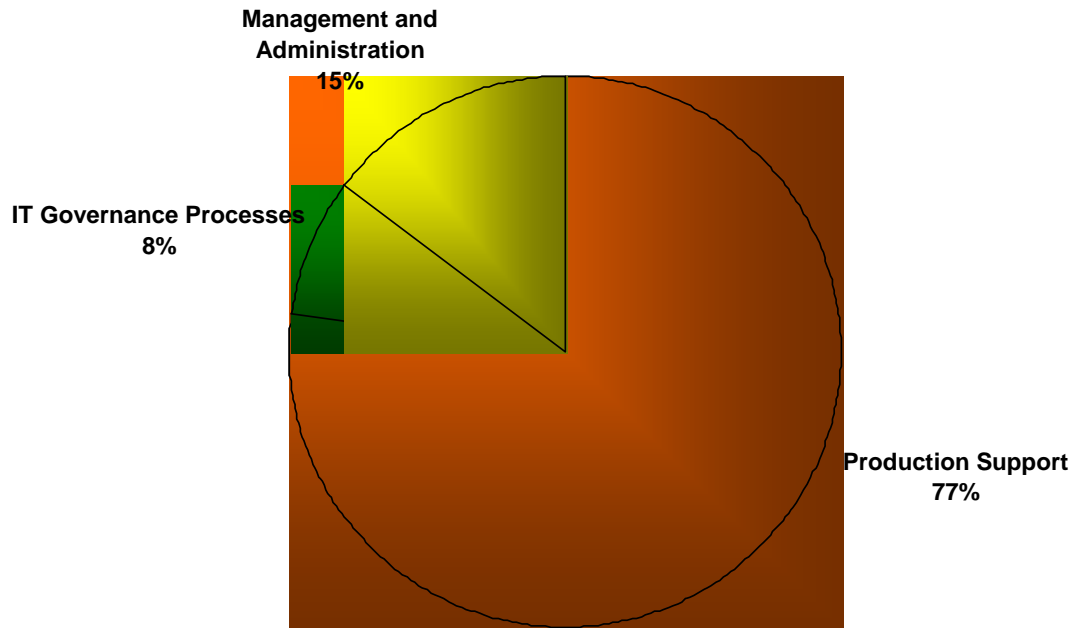


## Summary Points

1. In the Nodal market, IT Commercial operations will assume support responsibilities for an additional eight applications and six new environments.
2. IT Commercial Operations will rely heavily upon automation and disciplined support processes to manage the additional workload due to the Nodal market.
3. Work required beyond the requested staffing level will be accomplished with overtime and contracted labor.
4. IT Commercial Operations is requesting 35 FTE for 2009.

# 390 – IT Commercial Operations

## Allocation by Function



### Key Points

- ❑ ~ 15 applications managed and supported 24x7
- ❑ The best of breed implementation for Nodal adds an additional five environments which are operated by IT Commercial Operations

- **Function:**

- EMMS Production Support provides 24x7 support for the Energy Management and Market systems. The scope of their responsibilities include the support of frequency control, real-time network applications, DC-tie automation, ICCP applications, RTU applications, and others

- **Skillsets:**

- Advanced application programming skills
- Application testing
- Incident and problem management skills
- Power systems engineering
- Electrical engineering



# Dept. 395 – EMMS Production Support

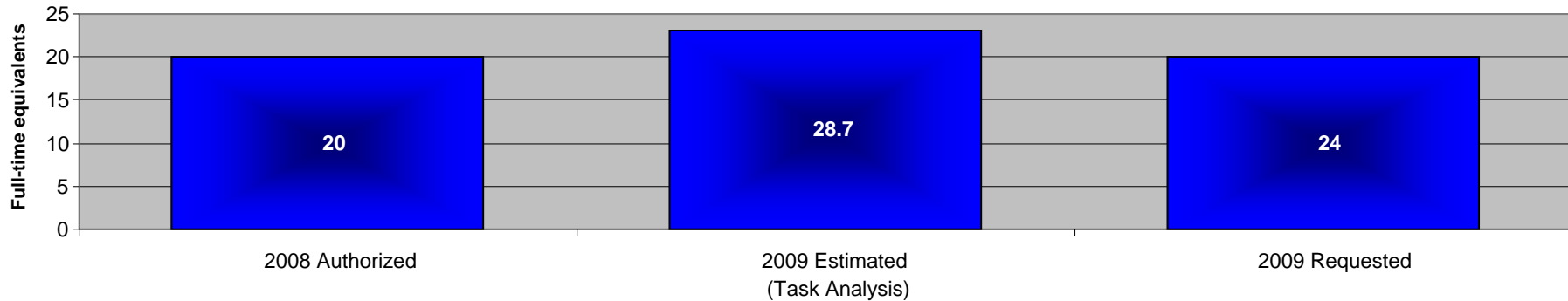
## EMMS Production Support responsibilities as of today:

- Frequency Control
- Real-time network apps
- Study network apps
- Application testing
- Wholesale market apps
- Market oversight apps
- DC-tie automation
- Outage Scheduler app
- Operator Training Simulator support and maintenance
- PI apps & modeling
- QSE modeling
- ICCP apps & modeling
- RTU apps & modeling
- RTU front-end hardware maintenance
- Truetime hardware maintenance
- EMMS system software maintenance
- Software migrations
- Database migrations
- Disaster recovery preparedness
- User interfaces
- Production, ITest, MOTE, & MOMS environment support

## New Nodal EMMS Production Support responsibilities:

- Network Model & Management Systems maintenance
- Congestion Revenue Rights maintenance
- Database migrations increase from once every other week to daily
- MMS & CRR web interfaces
- Additional EMMS applications
  - Wind Power Forecasting
  - Forced Outage Detection
  - Voltage Support
  - Outage Evaluation
  - Day-ahead market
  - Balancing market replaced by SCED

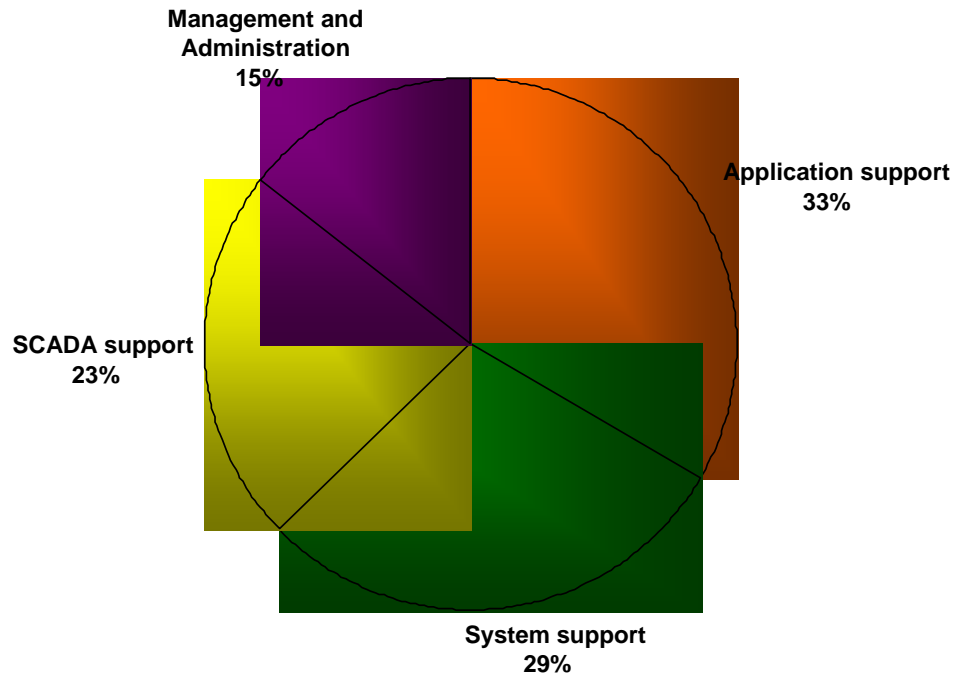
# 395 – EMMS Production Support Headcount Overview



## Summary Points

1. Of the 17 current EMMS Production Support FTE's, seven have masters degrees and one has a PhD. Eight have degrees in power engineering and five have more than 20 years of experience.
2. Work required beyond the requested staffing level will be accomplished with overtime and contracted labor.
3. EMMS Production Support is requesting 24 FTE for 2009.

# 395 – EMMS Production Support Allocation by Function



## Key Points

- ❑ 6 new applications with Nodal
  - ❑ Wind Power Forecasting
  - ❑ Forced Outage Detection
  - ❑ Voltage Support
  - ❑ Outage Evaluation
  - ❑ Day-ahead Market
  - ❑ SCED

- **Function:**

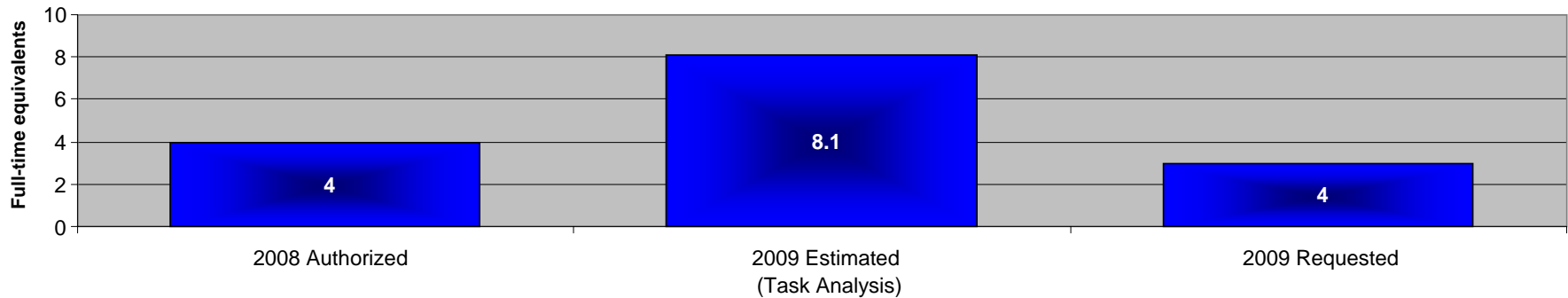
- Manage the successful implementation of capital and O&M funded projects, on time, on budget, and satisfying business requirements
  - Develop divisional PPL release plans
  - Plan, execute and monitor projects
  - Prepare and distribute all PMO required deliverables

- **Skillsets:**

- Project management
  - Financial management
  - Coordination & scheduling
  - Resource management
  - Vendor relationship & contract negotiation
- Customer relationship management
  - Conflict resolution
  - Effective communication
- Business analysis

# 396 – IT DPO

## Headcount Overview

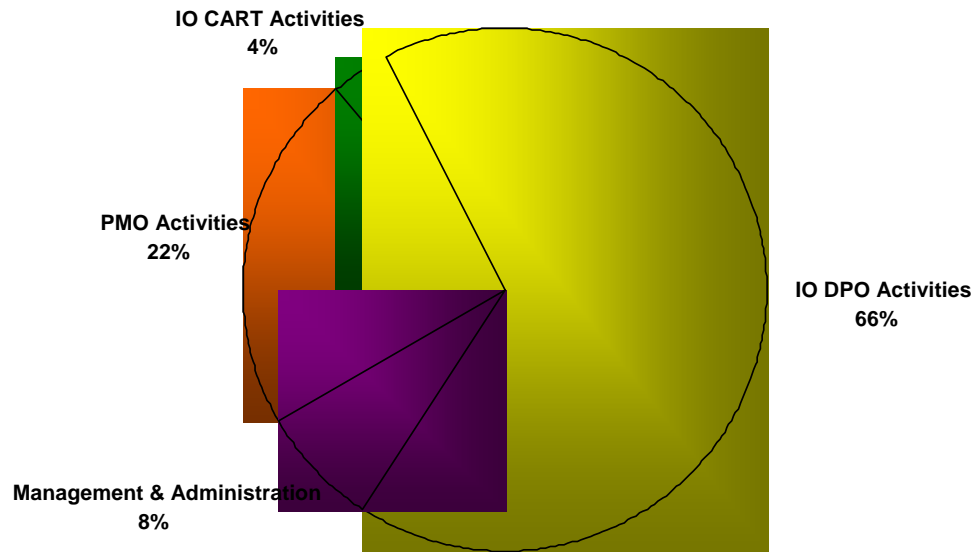


## Summary Points

1. IT DPO is responsible for the project management of the capital projects within IT and applying project management discipline to non capitalized large O&M efforts within IT.
2. Work required beyond the requested staffing level will be accomplished with overtime and contracted labor.
3. IT DPO is requesting 4 FTE for 2009.

# 396 – IT DPO

## Allocation by Function



### Key Points

- ❑ 19 active projects for 2007
- ❑ Initial authorized 2007 spend:
  - ❑ \$21,085,000
- ❑ Project 2007 spend:
  - ❑ \$23,300,000
- ❑ Extra \$2.15M spend due to acceleration of 2008 dollars into 2007

## **CIO Administration**

- **Functions:**

- IT Business & Customer services is responsible for the IT administrative function, IT financial management, software license compliance management, and customer relationship management

- **Skillsets:**

- Business analysis and accounting
- Customer relationship management
- Negotiation skills
- Vendor and contract management

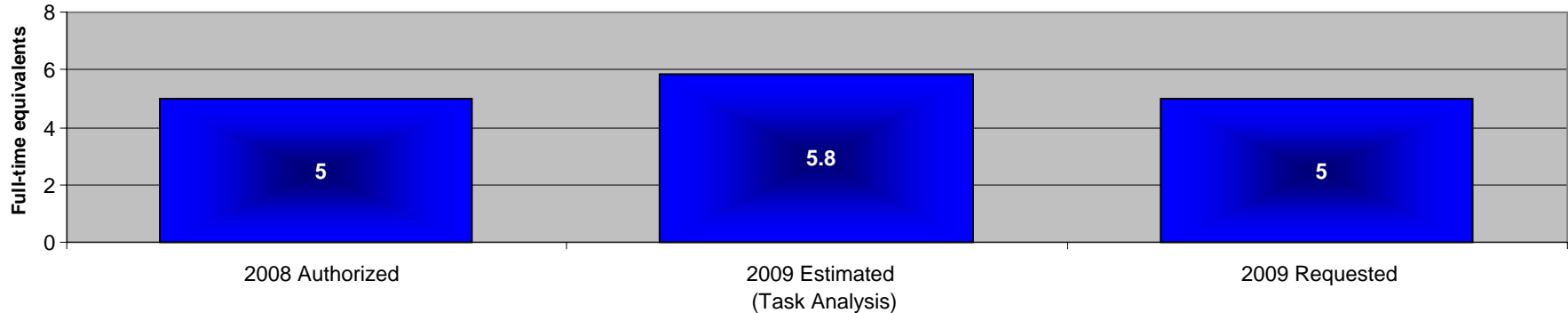


## **IT Administration, IT Financial Management & Customer Relationship Management**

- 1) Customer Relationship Management: understand each business and market segment's unique needs and ensure IT services are meeting their business requirements
  - Liaison to key internal and external IT customers (Market stakeholder groups)
  - Service level agreement management
- 2) IT Financial Management: responsible for capturing the maximum value from technology investment
  - IT Service Catalog
  - IT Service Costing & Benchmarking
  - Coordinate budget development and forecasting
- 3) IT Administration: centralized IT administrative tasks
  - Software license compliance
  - Contract and vendor management

# 302 – IT Business & Customer Services

## Headcount Overview

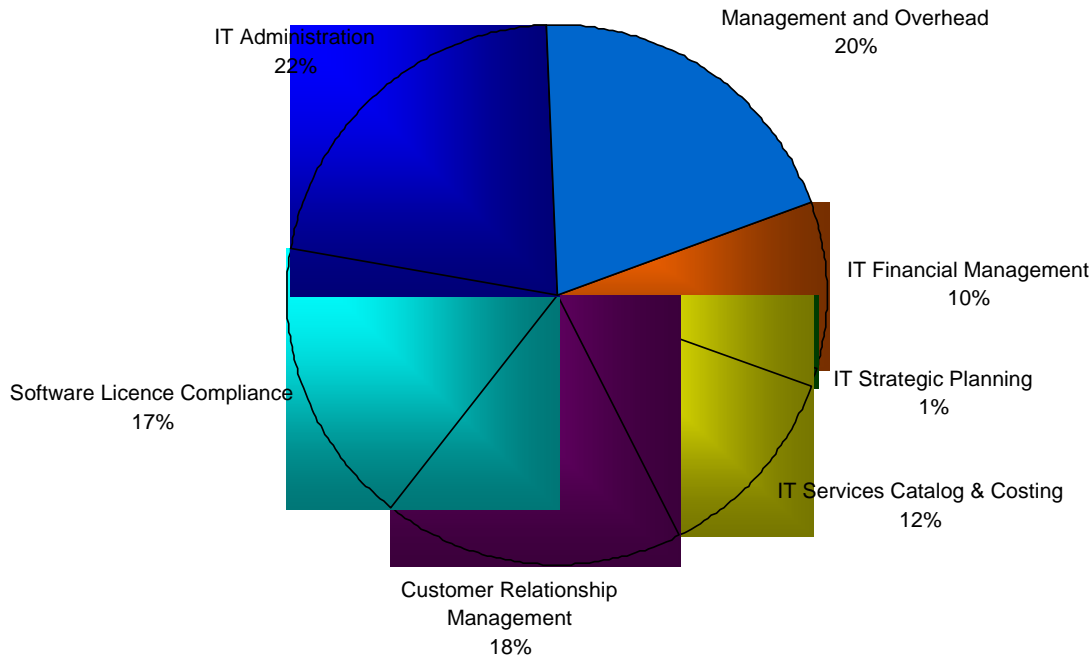


## Summary Points

1. This is a new department created in 2005 and tasked with managing customer relationships, developing an IT services catalog, and managing centralized IT administrative tasks.
2. Group provides software license management for entire IT-sanctioned tools.
3. Provides primary interactions with market participants and represents IT services to the public.
4. Negotiates and develops service level expectations with internal and external customers.
5. Interfaces with Procurement, Finance and other support services for seamless delivery of IT administrative functions.
6. IT Business & Customer Services is requesting 5 FTE for 2009.

# 302 – IT Business & Customer Services

## Allocation by Function



### Key Points

- ❑ Responsible for the Business-Within-A-Business strategy implementation within IT
- ❑ Developing SLAs for the Nodal systems prior to market go live

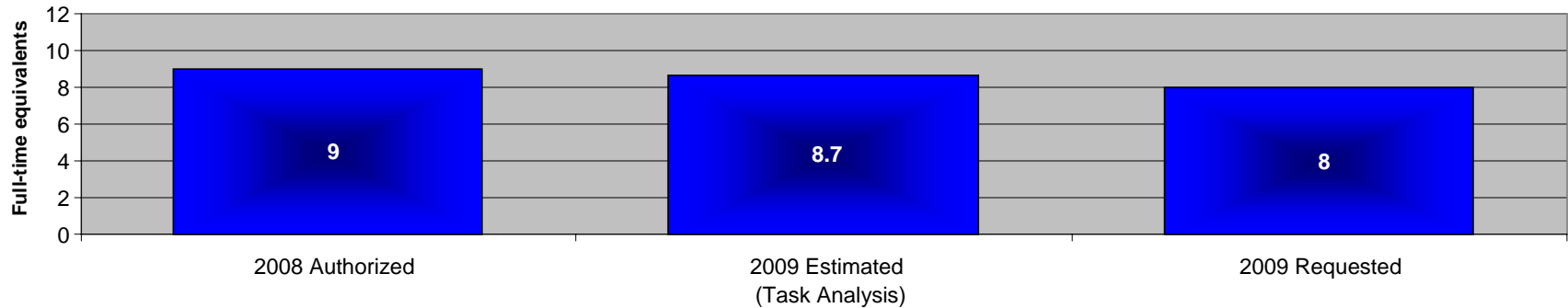
- **Function:**

- Enterprise Architecture (EA) provides the framework for ensuring consistency and predictability to the overall system design, deployment, and operation. For the system, continuous assessment and enforcement of compliance with the architecture is key
  - Overall system design covers all architecturally significant elements, including people, processes, information, and technology and their relationships to each other and to the external environment.
  - Design scope included providing projects with guidance in the form of standards, overall design, and consulting.

- **Skillsets:**

- Wide breadth of technical skillsets required with thorough understanding of IT disciplines:
  - Infrastructure management
  - Software architecture and development
  - Business processes design and analysis
  - Change & configuration management
  - Information and data architecture
  - Business continuity
  - Quality Assurance
  - Organizational Architecture

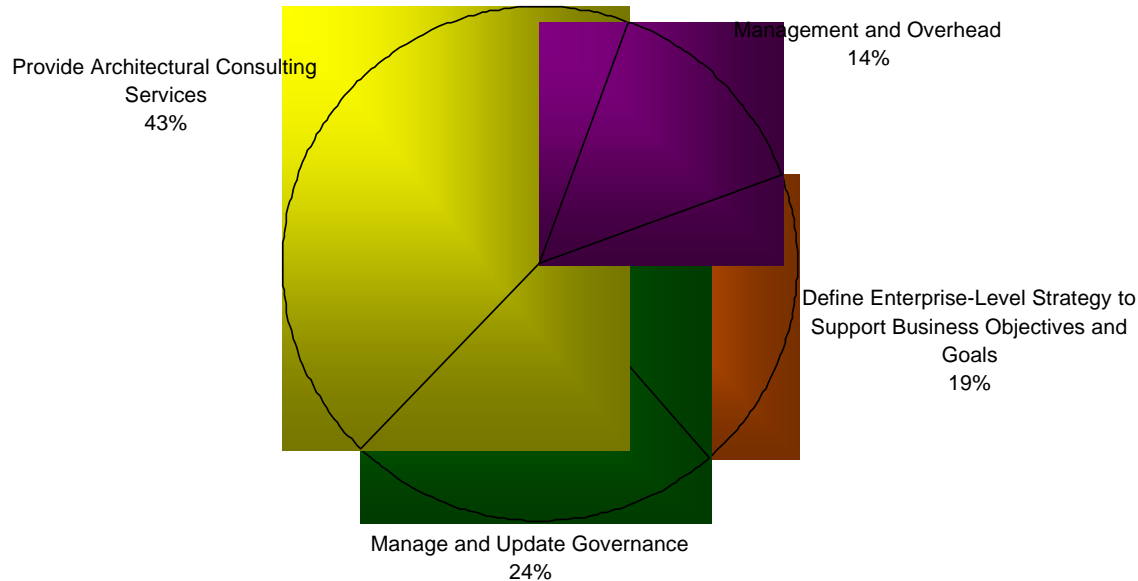
# 355 – Enterprise Architecture Headcount Overview



## Summary Points

1. A larger technology environment will require additional focus on disaster recovery, capacity planning and standards coordination.
2. Overall hardware life cycle management will require more focus due to larger environment.
3. Virtualized server environments will require more meticulous planning for proper application placement.
4. Standards reviews will occur more frequently and over larger platform set.
5. More robust and frequent disaster recovery planning efforts.
6. More complicated environment will require more frequent interaction with various IT teams addressing most difficult technology issues.
7. The massive complexity of the ERCOT system necessitates detailed analysis and modeling to ensure reliability, predictability, and scalability of the system and the supporting architecture.
8. Integral point in the selection and rejection of future technology solutions.
9. Enterprise Architecture is requesting 8 FTE for 2009.

# 355 – Enterprise Architecture Allocation by Function



## Key Points

- ❑ Continually develop, assess, and enforce EA processes, procedures, guiding principles, and standards
- ❑ Develop baseline and target architectures
- ❑ Ensure consistency of design across projects through design control System of Systems Architecture
- ❑ Manage technical risks relating to standards and overall design to mitigate all foreseeable risks with an affordable solution
- ❑ Identify opportunities for value engineering

**DIRECT TESTIMONY OF**

**STEVE BYONE**

**VICE-PRESIDENT AND CHIEF FINANCIAL OFFICER  
ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF  
THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF STEVE BYONE**

2

3                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

4

5   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

6   A.     My name is Steve Byone. My business address is 7620 Metro Center Drive,  
7           Austin, Texas 78744.

8

9   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

10   A.    I am employed by the Electric Reliability Council of Texas, Inc. (“ERCOT”) as  
11           Vice-President and Chief Financial Officer (“CFO”). I began my employment at  
12           ERCOT in 2005. I was appointed to my current position in September 2005.

13

14   **Q.     PLEASE DESCRIBE YOUR RESPONSIBILITIES AS CHIEF FINANCIAL**  
15           **OFFICER.**

16   A.    I am responsible for all treasury functions including financing, cash management,  
17           and credit analysis. I also oversee all accounting operations including accounts  
18           receivable, accounts payable, fixed assets, financial reporting, and  
19           budgeting/forecasting. Additionally, I oversee the company’s procurement (non-  
20           Nodal), Project Management Office, and enterprise risk management functions.  
21           Finally, I am responsible for management of the corporate operating budget and I  
22           am the primary liaison between the Finance and Audit (“F&A”) Committee of the  
23           Board of Directors and ERCOT.

24

25   **Q.     PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
26           **QUALIFICATIONS.**

27   A.    I have a Bachelor of Science degree in Accounting and Business Administration  
28           from Northwestern State University in Natchitoches, Louisiana. I also have a  
29           Masters of Business Administration, with a concentration in finance, from  
30           Louisiana Tech University. I am also a Certified Public Accountant. I have more



1 than 28 years experience in the energy field in a wide variety of positions,  
2 including Vice-Presidential positions as Chief Financial Officer and Chief Risk  
3 Officer. Prior to joining ERCOT, I was a Vice-President and Chief Risk Officer  
4 for Progress Energy, a Fortune 250 integrated energy company with more than 3  
5 million retail electric customers, more than 21,000 megawatts of regulated  
6 generation capacity and over \$9 billion in annual revenues. Before Progress  
7 Energy, I held a number of positions with Mirant Corporation, including Co-Chief  
8 Commercial Officer and Director of Corporate Finance & Chief Risk Officer for  
9 Mirant Europe, and Vice-President and Chief Control Officer with Mirant  
10 Americas Energy Marketing. In these positions, I had a number of  
11 responsibilities, including a primary role in the launch of a European venture,  
12 where I oversaw development of corporate, legal, and tax structures; secured  
13 working capital funding; developed business processes; and spearheaded hiring of  
14 staff. Earlier in my career, I held significant management and technical positions  
15 with Enron Corp., including managing world-wide cash flow, managing interest  
16 rate exposure and managing treasury stock repurchases. I also filled key roles in  
17 finance, accounting, and risk management before leaving Enron Corp. in 1996.

18  
19 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
20 **COMMISSION OF TEXAS?**

21 A. Yes, I testified in Docket 31824 (ERCOT's 2006 System Administration fee  
22 case), in Docket No. 32686 (ERCOT's request for approval of the Nodal Program  
23 surcharge), and in Docket No. 35428 (ERCOT's request for approval of the  
24 revised Nodal market implementation charge).

25  
26 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

27 A. The purpose of my testimony is to provide:  
28 • an overview of ERCOT's funding sources;  
29 • an overview of the 2009 ERCOT Budget;  
30 • a description of business control mechanisms employed by ERCOT to ensure  
31 that ERCOT funds are managed prudently and efficiently;

- a discussion of the financing considerations involved in ERCOT's determinations regarding project finance; and
- a description of the headcounts and budgets for the departments within the Corporate Administration division of ERCOT that are under my supervision.

**Q. PLEASE DESCRIBE THE EXHIBITS THAT YOU ARE SPONSORING.**

A. I am filing the following exhibits with my testimony:

SB-1: ERCOT Financial Corporate Standard

SB-2: "Deep dive" task analysis for the following ERCOT departments under my supervision: Treasury & Credit Administration, Contract Administration & Procurement, Internal Controls Management Program ("ICMP"), Accounting & Budget, Program Management Office, Corporate Administration Divisional Project Organization, Program Management Office Planning, Quality & Reporting, and Program Administration.

**Q. WERE THE EXHIBITS, SCHEDULES, AND WORKPAPERS THAT YOU ARE SPONSORING PREPARED BY YOU OR UNDER YOUR SUPERVISION?**

A. Yes, they were.

**Q. IS THE INFORMATION CONTAINED IN THE EXHIBITS, SCHEDULES, AND WORKPAPERS THAT YOU ARE SPONSORING TRUE AND CORRECT?**

A. Yes, it is.

## **II. ERCOT FUNDING**

**Q. PLEASE EXPLAIN HOW ERCOT FUNDS ITS OPERATIONS.**

A. ERCOT funds its operations through a variety of fees that are approved by the Commission. The largest of the fees is the ERCOT System Administration Fee. The System Administration Fee is charged to Qualified Scheduling Entities ("QSEs") on a per megawatt hour ("MWh") basis. ERCOT collects another

1 usage based fee: the Nodal Surcharge that funds the Texas Nodal Market  
2 Implementation Program (“Nodal Program”). The Nodal Surcharge is limited to  
3 recovering costs associated with Nodal market implementation, and does not fund  
4 ERCOT base operations or capital projects. Collection of the Nodal Surcharge  
5 will terminate when the costs of the Nodal Program, as approved by the  
6 Commission, have been recovered (currently projected to be in 2012).

7 ERCOT’s other fees relate to services offered to Market Participants, including  
8 for connectivity to ERCOT’s network, generation interconnection screening  
9 studies, application and membership fees, and map sales. ERCOT also receives a  
10 relatively small amount of non-operating and interest income. Additionally,  
11 ERCOT collects the NERC Electric Reliability Organization (“ERO”) Fee, but  
12 passes the proceeds along to fund the ERO rather than use them for ERCOT  
13 operations. The ERO Fee is a federally-mandated pass-through charge that funds  
14 an amount approved by FERC for the ERCOT region’s share of the operating  
15 costs of the ERO, plus the federal (called “Statutory” in reference to the federal  
16 Energy Policy Act of 2005) costs of the Texas Regional Entity, or Texas RE.

17 ERCOT funds capital projects using a mix of equity (revenue funding) and debt.  
18 In determining the combination of debt and equity to be used in any particular  
19 year, ERCOT considers the impact of the current year decision on future years. In  
20 making financing determinations, ERCOT is guided by its Financial Corporate  
21 Standard, which was most recently reviewed and approved by the ERCOT Board  
22 of Directors effective November 13, 2007. The Financial Corporate Standard is  
23 attached to my testimony as Exhibit SB-1.

24  
25 **Q. IS ERCOT REQUESTING THAT THE COMMISSION CHANGE ANY OF**  
26 **THE FEES ERCOT CHARGES?**

27 **A.** Yes. ERCOT is requesting that the Commission approve three changes in the fees  
28 it charges:

- 29 (1) An increase in the System Administration Fee to \$0.5698 per MWh;  
30 (2) A modification to the fee structure and amount of the generation  
31 interconnection Security Screening Study Fee; and

1 (3) Elimination of the Texas Non-ERCOT Load Serving Entity Fee (“Non-  
2 ERCOT LSE Fee”).

3 The changes in ERCOT responsibilities requiring the modification to the System  
4 Administration Fee are summarized in the direct testimony of ERCOT President  
5 and Chief Executive Officer (“CEO”) Bob Kahn, and detailed in the testimony of  
6 ERCOT’s other witnesses. The rationale for the modified fee structure for the  
7 Security Screening Study is discussed in the testimony of ERCOT Vice-President  
8 of System Planning Bill Bojorquez.  
9

10 **Q. WHY DOES ERCOT PROPOSE ELIMINATION OF THE NON-ERCOT**  
11 **LSE FEE?**

12 A. The Non-ERCOT LSE Fee was intended to be assessed to LSEs operating in  
13 areas within Texas but outside of the ERCOT region where customer choice is in  
14 effect. The fee was originally intended for development and use of the statewide  
15 customer registration system administered by ERCOT. This fee, first billed  
16 effective on June 1, 2001, is based on the number of registered Electric Service  
17 Industry Identifiers (“ESI IDs”), and billed to the LSE serving the customer at the  
18 ESI ID. At the inception of this fee, it was expected the Non-ERCOT LSE Fee  
19 would generate revenue of more than \$1 million per year. However, since  
20 implementing the Non-ERCOT LSE Fee, all but one LSE has sought and received  
21 legislative or regulatory exemptions from paying the Non-ERCOT LSE Fee. In  
22 2008, the fee was collected from a single entity and generated revenue of less than  
23 \$200,000.

24 ERCOT’s 2009 budget assumes elimination of the Non-ERCOT LSE Fee on  
25 January 1, 2009 for several reasons. First, there has been a fundamental change in  
26 the basis for establishing the Non-ERCOT LSE Fee since most LSEs are now  
27 exempted from paying the Non-ERCOT LSE Fee. Second, the Non-ERCOT LSE  
28 fee is of diminishing financial significance to ERCOT, but it still takes up  
29 administrative resources to administer it. Third, the registration system and  
30 associated applications and hardware put in place at the same time the Non-  
31 ERCOT LSE Fee was instituted are now fully depreciated, and there is no easily

1 identifiable ongoing incremental cost associated with maintaining a registration  
2 system capable of accommodating ESI-IDs represented by LSEs in Texas but  
3 outside of the ERCOT region.  
4

5 **Q. WHAT IS THE ERCOT “REVENUE REQUIREMENT”?**

6 A. ERCOT’s revenue requirement represents the funds that it needs to pay employee  
7 salaries and other operating costs, to honor contractual debt repayment  
8 agreements, and to contribute an “equity” investment in new systems and  
9 facilities.  
10

11 **Q. IS THE ERCOT REVENUE REQUIREMENT INTENDED TO ENABLE**  
12 **ERCOT TO RECOVER ITS REASONABLE AND NECESSARY COSTS**  
13 **OF PERFORMING ITS FUNCTION AS AN INDEPENDENT OPERATOR**  
14 **PURSUANT TO TEXAS UTILITIES CODE § 39.151 FOR THE YEAR?**

15 A. Yes, it is.  
16

17 **Q. HAS THE ERCOT SYSTEM ADMINISTRATION FEE CHARGED IN**  
18 **THE PAST BY ERCOT ENABLED ERCOT TO RECOVER ITS COSTS**  
19 **OF PERFORMING ITS FUNCTION?**

20 A. Yes and no. The fee has enabled ERCOT to recover its actual cash costs of  
21 performing its function. However, the fee has not enabled ERCOT to recover its  
22 costs of operations on an accrual basis.  
23

24 **Q. WHAT IS THE DISTINCTION?**

25 A. The ERCOT System Administration Fee is established to recover debt service  
26 principal and interest payments, rather than depreciation. Based on decisions  
27 regarding the timing of debt repayment, principal amortization to date has been  
28 significantly below ERCOT’s depreciation expense. As a result, while the  
29 ERCOT System Administration Fee has been sufficient for ERCOT to meet its  
30 debt-repayment obligations, it has not been adequate for ERCOT to recover

1 depreciation – the theoretical costs associated with ERCOT’s consumption of the  
2 utility of its investment in systems and facilities.

3  
4 **Q. WHY DID ERCOT DECIDE TO BASE ITS REVENUE REQUIREMENT**  
5 **ON DEBT SERVICE RATHER THAN DEPRECIATION?**

6 A. The primary reasons for basing the ERCOT System Administration Fee on debt  
7 service rather than depreciation were to temporarily produce a lower fee, focus on  
8 annual cash needs, and to better match the timing of the receipt of fees and  
9 ERCOT’s expenditures. Depreciation expense must be recorded consistent with  
10 generally accepted accounting principles while debt service amortization is, to a  
11 large extent, under management control.

12  
13 **III. ERCOT’S 2009 BUDGET**

14  
15 **Q. DOES ERCOT HAVE ANY PROCEDURES IN PLACE FOR**  
16 **STAKEHOLDER INPUT AND EVALUATION OF THE BUDGET FOR**  
17 **OPERATING EXPENSES AND CAPITAL SPENDING?**

18 A. Yes, ERCOT is a stakeholder-based organization. Accordingly, ERCOT has  
19 procedures for soliciting and has actively solicited and considered input from all  
20 of its various stakeholders, including representatives of electric industry Market  
21 Participants and consumers. The overall scope of ERCOT’s activities and  
22 responsibilities are determined by the ERCOT Protocols, which were developed  
23 by the stakeholders and approved by the Commission. Changes to the protocols,  
24 which have a direct effect on ERCOT’s budget, are promulgated by the TAC,  
25 which includes representatives of all of ERCOT’s stakeholder groups, and  
26 ultimately subject to approval by ERCOT’s Board of Directors and review by the  
27 Commission. ERCOT’s budget is reviewed and modified by the F&A  
28 Committee, and is subject to further review and approval by the Board. ERCOT’s  
29 stakeholders are represented within both of these groups. Stakeholders provide  
30 significant substantive comments during the review of the ERCOT Budget and  
31 changes to the budget are made in response to stakeholder comments.

1           Additionally, because stakeholders have representatives on ERCOT's Board, they  
2           have the ability to review, direct and control ERCOT's expenses. For example,  
3           the interests of residential consumers are represented on the ERCOT Board by the  
4           Public Counsel and to some extent by the Unaffiliated Directors. Likewise,  
5           residential consumers are represented on TAC by a representative of the Office of  
6           Public Utility Counsel and one other member.

7  
8       **Q.     PLEASE DESCRIBE HOW THE BUDGET FOR OPERATING EXPENSES**  
9       **IS DEVELOPED.**

10     A.     The budgets for operating expenses are developed by departmental cost center  
11           managers based on their operational priorities and responsibilities, as  
12           communicated to them by executive management and the Board. Each manager  
13           was instructed to budget no more than is reasonable and necessary to accomplish  
14           the tasks they expect to perform in 2009. These budgets were then reviewed by  
15           ERCOT management in an iterative fashion. For the 2009 Budget, the "deep  
16           dive" task analyses and staffing presentations were prepared for each  
17           departmental unit within the company and reviewed at several stages of the  
18           process by ERCOT's officers. Early in the annual budget process, management  
19           seeks feedback from the F&A Committee regarding key budget assumptions and  
20           policy decisions. The F&A Committee employs an open process to discuss the  
21           merits of budget policy alternatives. Key policy questions impacting the budget  
22           include: the level of capital expenditures, the amount of leverage employed, and  
23           the timing of principal repayments for new debt. The F&A Committee also  
24           reviews and confirms all key assumptions used in developing the budget. Once  
25           final decisions on policies and assumptions are reached, management prepares a  
26           final budget proposal for consideration by the F&A Committee. Upon approval  
27           by the F&A Committee, the budget is recommended for approval to the ERCOT  
28           Board.

1   **Q.   PLEASE DESCRIBE THE PROCESS FOR DETERMINING THE LEVEL**  
2   **OF BUDGETED CAPITAL SPENDING AND THE PROCESS FOR**  
3   **SELECTING PROJECTS THAT WILL BE UNDERTAKEN IN 2009.**

4   A.   Capital projects needed to carry out ERCOT's activities and functions are  
5       budgeted and implemented in accordance with ERCOT's project development  
6       policies, corporate standards and procedures. As explained in those documents,  
7       ERCOT staff, Market Participants, and the Commission continually monitor and  
8       adjust the performance of ERCOT processes and systems designed to facilitate  
9       operation of the electric operations and markets in ERCOT. The resulting capital  
10      project efforts typically fall into four categories: system enhancements, system  
11      replacements, technical infrastructure upgrades, and facilities needs. Initially,  
12      when determining capital projects planned for the upcoming year, input is  
13      obtained from Market Participants and is approved by the TAC and the ERCOT  
14      Board. This establishes the ERCOT Project Priority List (PPL) (WP.8.1) and  
15      related capital project budget.

16      The 2009 ERCOT Budget contains proposed capital spending of \$47.6 million, of  
17      which \$19.0 million will be revenue funded and \$28.6 million will be debt-  
18      financed. The \$47.6 million was approved by the F&A Committee and by the  
19      ERCOT Board after considerable discussion regarding the mix and priority of  
20      projects on the PPL, ERCOT's ability to successfully integrate projects given  
21      resource levels, revenue to debt funding levels, and the overall impact on the  
22      System Administration Fee.

23      The level of capital spending included in the 2009 ERCOT Budget is not  
24      sufficient to provide for the development and implementation of all projects on  
25      the PPL. The unfunded project initiatives include projects that would require an  
26      additional \$4.3 million of capital spending. Additionally, in reviewing the details  
27      supporting the \$47.6 million for identified projects, ERCOT received feedback  
28      from several Market Participant groups seeking additional increases in proposed  
29      capital spending. In particular, ERCOT received requests to add placeholder  
30      funds for "post nodal go-live enhancements" and for additional "advanced  
31      metering" efforts. Should these items require 2009 funding beyond that which is



1 provided for in the proposed budget, ERCOT will first seek to re-prioritize 2009  
2 capital spending before seeking additional funding.

3  
4 **Q. WHAT IS THE PRIMARY DRIVER OF THE CAPITAL PROJECTS**  
5 **BUDGET FOR 2009?**

6 A. There are two primary drivers of the capital projects budget for 2009. First, there  
7 is a need to plan for necessary enhancements to the newly implemented Nodal  
8 systems. Second, ERCOT's operational obligations necessitate upgrade of the  
9 Taylor Data Center, replacement of the Austin Control Center and Data Center,  
10 and relocation of ERCOT's corporate offices now located at the Met Center in  
11 Austin. The need for this "Met Center Relocation" project is discussed in detail  
12 in the testimony of ERCOT CEO Bob Kahn and ERCOT Facilities and Site  
13 Development Director Steven Grendel. The Met Center Relocation project  
14 accounts for \$20.4 million of the 2009 capital spending budget; all other projects  
15 total \$27.2 million.

16  
17 **Q. WHY IS ERCOT FUNDING ITS FACILITIES RELOCATION AS A**  
18 **CAPITAL PROJECT?**

19 A. The Met Center Relocation project is a major undertaking that has been carefully  
20 considered and must be carefully executed. The objectives, complexity and  
21 expected cost of the project suggest the effort will benefit from the rigors of  
22 ERCOT's project management processes. Generally accepted accounting  
23 principals dictate that many costs of the Met Center Relocation project be treated  
24 as capital expenditures.

25 The Met Center Relocation includes negotiation of a new lease to replace the  
26 facilities now at the Met Center, but the costs of the project are driven primarily  
27 by the need to comply with NERC standards relating to critical Data Center and  
28 Control Center infrastructure which will be located at stand-alone facilities. As  
29 detailed in Mr. Grendel's testimony, after an extensive review process, the  
30 ERCOT Board of Directors approved a facilities plan that contemplates

1 construction of new facilities for the Austin Data Center and Control Center, and  
2 construction of improvements at the Taylor Data Center facility.

3 The ERCOT Board considered a range of options for financing the Met Center  
4 Relocation expenses. Of the alternatives considered, the option chosen provides  
5 the lowest overall cost, produces greatest stability in ERCOT fees, and provides  
6 the best match of cost of the assets purchased and constructed with the future  
7 benefits expected to be derived from the assets. The facilities financing plan  
8 selected by the Board also places ERCOT in a favorable financial position in the  
9 years ahead given the decision to fund the project with forty (40) percent equity.  
10 The debt repayment for the facilities cost begins in 2011 and is completed in  
11 2019.

12  
13 **Q. WHAT HAPPENS IN THE EVENT THE ACTUAL COSTS OF ERCOT'S**  
14 **OPERATIONS ARE UNDER- OR OVER-RECOVERED DURING A**  
15 **CALENDAR YEAR?**

16 A. Consistent with the ERCOT Financial Corporate Standard (Exhibit SB-1),  
17 ERCOT's preference is to address actual under- or over-recovery issues during its  
18 annual budget process. That is, if it appears that ERCOT will have an under- or  
19 over-recovery, such amount will be factored into current borrowing decisions,  
20 which will impact the calculation of ERCOT's budget for the next year. ERCOT  
21 management, the F&A Committee, and the Board of Directors review ERCOT's  
22 financial performance on a monthly basis. These groups are sensitive to  
23 appropriate recovery of ERCOT revenue requirements. Accordingly, actions are  
24 taken in response to an under- or over-recovery of revenue requirements in a  
25 manner that best utilizes ERCOT's revenues and borrowings. Historically, at the  
26 direction of the Board, ERCOT has used available funds to invest in capital  
27 projects, which had the effect of reducing the current year debt borrowing level.  
28 As debt is reduced, or not incurred, interest expense on that debt is avoided. For  
29 example, the ERCOT Board is currently considering a recommendation for  
30 disposition of a favorable revenue requirements variance of \$2.5 million for fiscal  
31 year 2007. I have recommended the F&A Committee recommend Board approval

1 to allow that the favorable variance be applied to revenue fund a portion of the  
2 2008 spending associated with the Met Center Relocation, and (to the extent  
3 possible) to reduce debt funding for other 2008 projects.  
4

5 **Q. WHY IS OVER-RECOVERY OF REVENUES RESULTING FROM**  
6 **UNDER SPENDING NOT A SIGNIFICANT CONCERN?**

7 A. ERCOT is a non-profit entity that maintains a significant debt-funded, capital-  
8 spending program. As such, over-recovery of revenues is not a concern if  
9 ERCOT's total over-recovery does not exceed a significant portion of its capital  
10 spending.

11 As a non-profit entity, over-recovery of revenues does not result in a net profit  
12 that will be distributed to shareholders. Instead, if not used for other approved  
13 purposes, over-recovery increases ERCOT's equity balance, which can be used in  
14 future periods. ERCOT's policy of using over-recoveries to reduce the amount of  
15 debt financing is prudent because it enables ERCOT to maintain greater financial  
16 flexibility to react to unexpected needs in the future without having to  
17 significantly adjust its fee.  
18

19 **Q. WERE THE FORECASTED COSTS THAT ARE THE BASIS OF**  
20 **ERCOT'S FEE FILING APPROVED BY ERCOT'S BOARD AS PART OF**  
21 **THE BOARD'S APPROVAL OF ERCOT'S ANNUAL BUDGET FOR**  
22 **2009?**

23 A. Yes. The expenses included in this fee filing come directly from the budget  
24 amounts approved by the ERCOT Board. The Board approved the ERCOT 2009  
25 Budget at its meeting on May 20, 2008. A certification by ERCOT's General  
26 Counsel regarding the approval of the 2009 ERCOT Budget by the ERCOT Board  
27 of Directors is included in ERCOT's Fee Filing Package.  
28

29 **Q. HAVE YOU COMPARED HISTORICAL FORECAST BUDGET**  
30 **EXPENSES TO ACTUAL EXPENSES TO DETERMINE WHETHER**  
31 **ERCOT'S BUDGET FORECAST IS RELIABLE AND ACCURATE?**

1 A. Yes. ERCOT conducts regular reviews of actual expenses and prepares an  
2 analysis of significant variances. All expenses are monitored and managed to  
3 ensure they are within reasonable tolerances of approved budget amounts. For  
4 reference regarding the accuracy and reliability of ERCOT's budget, the \$2.5  
5 million favorable financial variance realized in 2007 represents less than 2 percent  
6 of 2007 revenue requirements.

7  
8 **Q. IN YOUR OPINION AS ERCOT'S CHIEF FINANCIAL OFFICER, IS**  
9 **THE FORECASTED DATA USED IN THIS FILING REASONABLE,**  
10 **RELIABLE, AND MADE IN GOOD FAITH?**

11 A. Yes, it is. ERCOT engaged in a "bottom up" review of its tasks and functions,  
12 called the "deep dive" process as part of the development of the 2009 Budget.  
13 This was necessary because of the vast changes the organization is experiencing  
14 due to the introduction of Nodal market operations and increased federal  
15 reliability compliance duties. The "deep dive" process is explained in detail in the  
16 testimony of ERCOT CEO Bob Kahn. The process gave ERCOT management a  
17 much more detailed and nuanced understanding of the future resource needs  
18 facing the company. In addition, information from employee time tracking  
19 systems was utilized to examine current activities and functions as a check on  
20 new estimates.

21  
22 **Q. IS THE 2009 BUDGET APPROVED BY THE ERCOT BOARD OF**  
23 **DIRECTORS SUBSTANTIALLY CONSISTENT WITH ERCOT'S**  
24 **STRATEGIC FINANCIAL PLAN?**

25 A. Yes. The Strategic Financial Plan is submitted to the Board with the Annual  
26 Budget. The Strategic Financial Plan provides current financial information and a  
27 five-year projection (in this case, through 2014), and addresses all sources of  
28 revenues, including proposed fee adjustments. The Strategic Financial Plan  
29 includes projections of operating and maintenance expenses, project expenditures,  
30 the funding sources of project expenditures, debt service requirements, and the  
31 resulting capital structure. Reviewing the Strategic Financial Plan in conjunction

1 with the Annual Budget allows the Board to consider the current year budget  
2 request within the context of known future needs. It also helps them to  
3 understand the long term implication of current year decisions.  
4

5 **Q. ARE THE OPERATING AND CAPITAL EXPENSES INCLUDED IN THE**  
6 **2009 ERCOT BUDGET REASONABLE AND NECESSARY?**

7 A. Yes. The expenses included in the 2009 ERCOT Budget are reasonable and  
8 necessary for ERCOT to carry out its functions as an independent system operator  
9 under Public Utility Regulatory Act § 39.151.  
10

11 **Q. SINCE THE 2009 BUDGET WAS PREPARED, HAVE THERE BEEN**  
12 **SUBSEQUENT EVENTS WITH POTENTIALLY MATERIAL**  
13 **FINANCIAL IMPLICATIONS FOR 2009?**

14 A. Yes. On April 18, 2008, the U.S. Department of Treasury sent a determination  
15 letter notifying ERCOT that Treasury had completed its review of ERCOT's tax-  
16 exempt status, and concluded that ERCOT is exempt from Federal income tax  
17 under § 501(c)(4) of the Internal Revenue Code. This development could have  
18 ramifications for ERCOT's 2009 expenditures, and may result in a refund of past  
19 tax payments.

20 In 1991, ERCOT was granted exemption from Federal income tax under a  
21 different provision of the Internal Revenue Code, § 501(c)(6). ERCOT Finance  
22 personnel reviewed the issue and determined that the more favorable § 501(c)(4)  
23 tax exempt status was more appropriate due to ERCOT's organizational  
24 responsibilities. There are substantial benefits stemming from the change in tax  
25 exempt classification from § 501(c)(6) and § 501(c)(4), including exemption from  
26 Texas sales and use taxes (with potential for retroactive application). In 2006,  
27 ERCOT applied to change its tax exempt status, and its application was granted in  
28 the April 18, 2008 determination letter.

29 ERCOT staff is taking steps necessary to operationally effectuate the change in  
30 tax exempt status. This includes exercising its rights to cease paying Texas sales  
31 and use taxes going forward, and preparing an application for refund of Texas

1 sales and use taxes paid in years past. As indicated by the two years it took to  
2 receive a determination regarding ERCOT's application to change its tax exempt  
3 status, the determination of the amount of any refund of sales and use taxes may  
4 not come quickly.

5 Therefore, ERCOT does not know the full financial impact of the change – for  
6 2009 and subsequent years –and the impact may not be understood with certainty  
7 for many months. Because ERCOT received the determination letter just as it  
8 was finalizing the 2009 budget, and because the budget impact of the change is  
9 uncertain, the Board-approved 2009 budget has not been adjusted and does not  
10 address this potentially material subsequent event. ERCOT will keep the  
11 Commission apprised of developments regarding the impact of its change in tax  
12 exempt status in its regular financial reports to the Commission, and through  
13 filings in this proceeding.

#### 14 15 **IV. BUSINESS CONTROL MECHANISMS**

#### 16 17 **Q. PLEASE DESCRIBE THE COST CONTROLS THAT APPLY TO ERCOT** 18 **SPENDING.**

19 A. Before discussing these mechanisms in any detail, it is important to understand  
20 the arenas in which ERCOT's costs are determined and cost control mechanisms  
21 can be applied. These arenas are: (1) Commission regulatory review; (2) ERCOT  
22 Board actions made using stakeholder input; (3) budget processes; (4) diligent  
23 management of expenditures; and (5) audits.

24 Review by the Commission plays an important role in ensuring that ERCOT's  
25 costs do not become unreasonable or adversely affect the competitive interests of  
26 any one part of the market. The Commission sets much of ERCOT's agenda. It  
27 approves the ERCOT Protocols and the protocol revision process, and it approves  
28 ERCOT's fees, and has oversight authority over ERCOT's actions. Pursuant to  
29 P.U.C. SUBST. R. § 25.362(h), ERCOT files quarterly financial updates with the  
30 Commission, along with the audit reports for internal and external audits of  
31 ERCOT operations. In addition, ERCOT files an Annual Report with the

1 Commission that includes financial statements, budget data, and audit reports.  
2 ERCOT officers regularly make reports at Commission Open Meetings regarding  
3 financial control matters, and consult with the Commission staff to apprise them  
4 of notable developments.

5 The ERCOT Board, which has representatives on ERCOT's stakeholder groups,  
6 also plays a crucial role in controlling ERCOT's costs. The Board is charged with  
7 implementing the directives of the Commission and the Market Participants,  
8 while protecting the organization as fiduciaries. The ERCOT Board sets the goals  
9 and direction of ERCOT and reviews and approves ERCOT's actions, including  
10 the ERCOT Budget, which is used to set ERCOT's fees. The Commission,  
11 Market Participants, consumers, and the general public all have representatives on  
12 the ERCOT Board. The Board requires ERCOT staff to reduce costs as much as  
13 possible and explores the best approaches for ERCOT to fund its activities.

14 ERCOT's budget processes provide the most active arena in which cost control  
15 mechanisms can be applied. These budget processes attempt to plan ERCOT's  
16 activities for the upcoming year and to quantify the real costs of these activities.  
17 ERCOT's budget processes are designed and used to maximize the return on  
18 every dollar spent. ERCOT applies strict criteria to the determination of costs for  
19 inclusion in the budget. For example, each division manager is responsible for  
20 maximizing the efficiency of all personnel working under the manager.

21 The next arena in which ERCOT's costs are managed is the ongoing, day-to-day  
22 management of ERCOT. This is the arena in which the ERCOT staff has the  
23 greatest responsibility and opportunity to control costs. Under the Internal Control  
24 Management Program ("ICMP"), ERCOT management has also adopted policies  
25 and instituted operational procedures that are designed to enhance control and  
26 standardization of financial transactions. For example, ERCOT continues to  
27 implement policies and standards relating to purchasing activity and employee  
28 expenses. Additionally, ERCOT uses accounting software that allows it to  
29 accurately track capital expenditures by individual project. Details of some of  
30 ERCOT's cost control practices can be found in ERCOT's Corporate Governance  
31 Policy, Business Operations Policy, Financial Corporate Standard, Investment

1 Corporate Standard, Code of Conduct and Ethics Corporate Standard, Contract  
2 Approval Corporate Standard, Delegation of Authority Corporate Standard,  
3 Business Expense Reimbursement Corporate Standard, and Competitive Process  
4 Operating Procedure. The managerial decisions made by ERCOT staff are  
5 constantly reviewed and evaluated by ERCOT management, the F&A Committee,  
6 and the Board of Directors, who review ERCOT's financial performance at least  
7 monthly. These financial reviews include a comparison of actual expense  
8 incurred to the amounts budgeted. Significant variances are investigated,  
9 discussed and appropriate action taken.

10 Another opportunity for cost control is through external and internal audits.  
11 Independent review of ERCOT's activities provides for the ability to ensure that  
12 spending controls are sufficient and effective. As described in more detail in  
13 ERCOT CEO Bob Kahn's testimony, the activity of ERCOT's Internal Audit  
14 department has accelerated in recent years: in 2005, the Internal Audit department  
15 completed seven (7) audits; in 2007, the number of audits increased to 35.

16  
17 **Q. WILL ANY ADDITIONAL AUDITS BE CONDUCTED DURING THE**  
18 **REMAINDER OF 2008 AND INTO 2009?**

19 A. Yes, ERCOT plans to engage independent external auditors to conduct SAS 70,  
20 financial statement, and benefit plan audits. ERCOT's internal audit team will  
21 also continue to conduct audits over the same period. ERCOT provided the most  
22 recent version of its Internal Audit Plan to the Commission as part of its First  
23 Quarter 2008 Report, filed on May 15, 2008 in Project No. 27706.

24  
25 **Q. DO YOU BELIEVE THAT ERCOT IS MAKING REASONABLE**  
26 **EFFORTS TO CONTROL ITS COSTS?**

27 A. Yes, I do. Several key cost-control mechanisms were discussed above. Recently,  
28 and more specifically, ERCOT has implemented a number of cost control  
29 mechanisms to ensure that its funds are spent prudently and efficiently. These  
30 mechanisms are being continually improved and new mechanisms are being  
31 implemented. For example, in mid-2007 ERCOT simplified its time tracking



1 processes while at the same time improving accuracy and functionality of the  
2 system; in late 2007, ERCOT implemented an automated business expense  
3 reimbursement application that enables better cost monitoring and control while  
4 providing employees quicker reimbursement and greater transparency of the  
5 process; in the second quarter of 2008 ERCOT implemented a contingent  
6 workforce management program expected to enable significant annual savings;  
7 and in the third quarter of 2008, ERCOT plans to begin using more efficient  
8 requisition self-service processes. ERCOT's record shows that our financial  
9 management efforts are paying off.

10 ERCOT programs are not only subject to effective cost control efforts, but they  
11 are also well controlled as evidenced by the fact no "unsatisfactory" ratings were  
12 received in connection with audits conducted in 2005, 2006, or 2007. In addition,  
13 the number of audit reports with overall high ratings (*i.e.*, "Minor Improvements"  
14 or better ratings) has increased from 33 percent in 2003-04 to 60 percent in 2007.

## 15 16 V. FINANCING CONSIDERATIONS

### 17 18 Q. DOES ERCOT HAVE AN ESTABLISHED POLICY REGARDING THE 19 USE OF DEBT FINANCING?

20 A. Yes. The Financial Corporate Standard authorizes ERCOT to fund capital  
21 expenditures with a mixture of revenue and debt, but with significant restrictions.  
22 First, ERCOT staff is required to consider the impact of any current year  
23 financing decision on future years. Second, the Financial Corporate Standard  
24 provides that ERCOT will generally structure debt issues so that the average  
25 maturity of the debt approximates the average life of the assets financed. The  
26 Financial Corporate Standard also authorizes the use of variable-rate debt to  
27 provide flexibility when needed, but prohibits ERCOT from allowing unhedged,  
28 variable rate debt to be more than 40 percent of total debt outstanding.  
29 In addition, in recent years the F&A Committee and the Commission have  
30 consistently directed or encouraged ERCOT to maintain 40 percent revenue-

1 funding of all project expenditures. As a rule, ERCOT funds projects 40 percent  
2 from current year revenue and 60 percent from borrowed money.

3  
4 **Q. WHAT FACTORS DOES ERCOT EVALUATE WHEN CONSIDERING**  
5 **THE BLEND OF REVENUE AND DEBT USED TO FUND CAPITAL**  
6 **EXPENDITURES?**

7 A. The key factors include the following:

- 8 (1) Impact on ERCOT's financial position: Higher debt levels can negatively  
9 impact ERCOT's balance sheet. Higher levels of revenue funding from  
10 the System Administration Fee strengthen ERCOT's balance sheet.
- 11 (2) Overall cost to rate payers: The more debt ERCOT incurs, the more  
12 interest it must pay. In this way, use of debt increases the overall cost of  
13 ERCOT's projects.
- 14 (3) Matching cost with benefit: It is always financially prudent to match the  
15 payment schedule of debt with the useful life of the assets the debt was  
16 used to finance.
- 17 (4) Minimizing "spikes" in the System Administration Fee: Rate payers and  
18 Market Participants desire consistent, predictable fees that do not fluctuate  
19 significantly. An overemphasis on current year revenue funding could  
20 result in undesirable spikes in ERCOT's fee.

21 ERCOT strives to maintain the 60/40 debt/revenue ratio I discussed previously,  
22 but the profile of each major capital expenditure must be examined to determine  
23 the best way to balance ERCOT's unique set of financing considerations.

24  
25 **Q. PLEASE EXPLAIN ERCOT'S EFFORTS TO MONITOR/MANAGE ITS**  
26 **DEBT.**

27 A. ERCOT manages its debt by:

- 28 • ensuring there is adequate borrowing capacity to meet foreseeable funding  
29 needs;
- 30 • borrowing only as needs arise, thus keeping outstanding balances to a  
31 minimum;

- making a significant revenue investment in all new capital projects;
- reviewing the ratio of fixed to floating rate debt and adjusting the ratio or entering into interest rate hedges as needed;
- reviewing the absolute level of debt and the associated debt service obligations with the F&A Committee and the Board on a regular basis;
- closely monitoring market conditions and working with lenders to ensure favorable positioning of ERCOT debt; and
- maintaining a strong financial position and a credit quality sufficient to support an investment grade credit rating from an independent credit rating agency.

**Q. PLEASE DESCRIBE ERCOT'S DEBT FACILITIES.**

A. ERCOT has a revolving line of credit and a term loan with a group of banks led by JPMorgan Chase Bank. The revolving line of credit, which is used primarily for short-term working capital needs, has a maximum amount of available credit of \$75 million and expires on June 15, 2012. The term loan currently has a maximum available credit of \$212.5 million and expires December 15, 2012. Principal payments are due in annual installments through November 2012. The effective interest rates on outstanding balances under these facilities at year-end 2007 were 5.18% for the revolving line of credit and 5.06% for the term loan. ERCOT is in compliance with all the covenants included in the revolving line of credit and term loan. In addition, in 2005 and 2007, ERCOT entered into variable-to-fixed rate swap agreements with two financial institutions. Under the terms of the swap agreements, ERCOT pays its counterparties a fixed rate, and receives in return variable interest at the London Interbank Offered Rate ("LIBOR"), which approximates the rate of interest on the outstanding term loan. ERCOT's other major debt instrument is the senior notes, with an outstanding balance of \$82 million as of the date this testimony is filed. The senior notes carry an interest rate of 6.17%, due semi-annually. Principal payments are due in equal annual installments through May 2014. ERCOT recently made its May 2008 principal payment, totaling \$13.7 million.

1 ERCOT's Financial Standard also permits it to use funds held in conjunction with  
2 Transmission Congestion Rights ("TCR") auctions for limited working capital  
3 and capital expenditure needs. TCR auction proceeds may only be utilized if  
4 ERCOT's liquidity is at or above target levels and ERCOT's issuer rating remains  
5 investment grade. When they are used, TCR proceeds enable ERCOT to meet  
6 short-term liquidity needs without incurring the expense associated with short-  
7 term credit facilities.

8 ERCOT management conducts regular reviews of the mixture of fixed and  
9 floating rate debt and periodically updates the F&A Committee regarding  
10 ERCOT's debt components. As appropriate, ERCOT seeks to restructure or  
11 refinance debt to obtain the lowest overall cost of borrowing while still meeting  
12 its financial objectives.

13  
14 **Q. PLEASE DESCRIBE ERCOT'S CURRENT DEBT STRUCTURE.**

15 A. As of May 28, 2008, ERCOT has outstanding debt of \$302 million. The  
16 borrowing is comprised of \$82 million of senior notes, \$162 million under the  
17 term loan, and \$58 million under the revolving line of credit. ERCOT has  
18 additional borrowing capacity under the revolving line of credit and the term loan  
19 of \$67 million. ERCOT does not have outstanding borrowings from TCR auction  
20 proceeds as of that date.

21  
22 **Q. IS ERCOT'S USE OF DEBT REASONABLE IN ORDER FOR ERCOT TO**  
23 **PERFORM ITS FUNCTIONS?**

24 A. Yes, it is. ERCOT is cognizant of the need to carefully monitor its debt profile,  
25 and, working in conjunction with the Commission and stakeholders, ERCOT will  
26 endeavor to manage its debt – as well as all its financial affairs – with utmost  
27 prudence.

1                   **VI. DEEP DIVE ANALYSES AND 2009 HEADCOUNTS**  
2                   **FOR THE FINANCE ORGANIZATION**  
3

4   **Q. WHICH DEPARTMENTS IN THE ERCOT ORGANIZATION REPORT**  
5   **TO YOU AS VICE-PRESIDENT AND CFO?**

6   A. Several departments within the Corporate Administration division report to the  
7   CFO. The people in these departments include those responsible for finance,  
8   accounting, procurement and program management. Their work is organized into  
9   eight departmental groups (with department numbers identified): Treasury &  
10   Credit Administration (111); Contract Administration & Procurement (112);  
11   Internal Controls Management Program (“ICMP”) (113); Accounting & Budget  
12   (114); Program Management Office (350); Corporate Administration Divisional  
13   Project Organization (351); Program Management Office Planning, Quality &  
14   Reporting (352); and Program Administration (353). I will refer to the  
15   departments reporting to me collectively as the “Finance” organization.  
16

17   **Q. HOW DID THE FINANCE ORGANIZATION DEVELOP ITS PROPOSED**  
18   **HEADCOUNT FOR 2009?**

19   A. Finance personnel participated in the ERCOT-wide task analysis and internal  
20   review of all functions and positions the entire ERCOT organization collectively  
21   performed as part of development of the 2009 budget. The “deep dive” process  
22   called on every department within each division to justify the need for all staff  
23   positions. This process called on all ERCOT managers to demonstrate that their  
24   staffing levels: (a) reflect all possible efficiencies going forward rather than  
25   simply repeating what was done in the past; and (b) are aligned with the new  
26   activities ERCOT is undertaking as part of the transition to the Nodal System.  
27

28   **Q. IS THERE DOCUMENTATION TO SUPPORT EACH OF THE**  
29   **CORPORATE ADMINISTRATION DIVISION’S DEPARTMENTAL**  
30   **DEEP DIVE ANALYSES?**

1 A. Yes. The deep dive analyses for the Finance organization is attached to my  
2 testimony as Exhibit SB-2.

3

4 **Q. HOW WOULD YOU SUMMARIZE THE FINDINGS OF THE “DEEP**  
5 **DIVE” ANALYSIS FOR FINANCE?**

6 A. The workload of ERCOT’s Finance team has increased in complexity and volume  
7 since the last time the System Administration Fee was reviewed by the  
8 Commission. There are two primary reasons for these changes. First, regulatory  
9 accounting requirements have made ERCOT’s accounting much more  
10 complicated. For example, the Texas Regional Entity (“Texas RE”) and the  
11 Independent Market Monitor (“IMM”) must maintain certain structural  
12 separations from the rest of ERCOT to maintain the independence that is key to  
13 their functions. Nevertheless, the Texas RE and (to a lesser extent) IMM rely on  
14 ERCOT to collect and account for their operating expenses. ERCOT has had to  
15 create new accounting and financial structures that respect the regulatory  
16 framework governing Texas RE activities. Similarly, the fact that the Nodal  
17 Program is funded from a different source from the System Administration Fee  
18 has made it important to separate Nodal activities from ERCOT’s “base  
19 operations.” Second, the number and complexity of the accounting standards  
20 ERCOT must comply with has increased. The regulatory accounting  
21 requirements of financial accounting standards, Enterprise Risk Management and  
22 corporate compliance, and ERCOT’s practice of pursuing “best practices” (i.e.  
23 Sarbanes-Oxley standards) all introduce complexity to the Finance organizations  
24 work. In addition, ERCOT’s efforts to maximize its financial flexibility demand  
25 review and consideration of more complicated loan and borrowing structures and  
26 financial hedging instruments.

27 On the performance side, the organization is gratified by the improved satisfaction  
28 with many of our deliverables. Cleaner audits, improved reporting, and better  
29 financial oversight have combined to result in Finance’s work being more trusted  
30 by internal and external stakeholders. While our staff sees room for  
31 improvements – for example, in the procurement process and the execution of the

1 ICMF – I believe that our recent efforts to build and maintain a reputation for  
2 quality performance are paying off.

3  
4 **Q. WHAT STEPS WILL THE FINANCE ORGANIZATION TAKE TO**  
5 **MAXIMIZE LABOR PRODUCTIVITY IN 2009?**

6 A. If some expected work for 2009 does not materialize, management will reevaluate  
7 the need to replace personnel as a result of natural turnover. If any particular  
8 employees are not fully utilized at any time, management will ensure the  
9 maximization of the employee's contribution by assigning additional work to the  
10 employee, reassigning the employee or even terminating the employee, if we  
11 cannot identify any required work of equal or greater value. The Finance  
12 organization has several automation projects in process or recently implemented  
13 that should improve efficiency and productivity, in some cases company-wide.  
14 These include reconfiguration of the Lawson accounting software system,  
15 increased automation of credit administration under Nodal, expense reporting and  
16 improvements to procurement practices.

17  
18 **Q. WHAT DID FINANCE CONCLUDE WITH REGARD TO HEADCOUNT**  
19 **IN 2009?**

20 A. The 2008 budgeted headcount for the Finance departments was 60 FTEs. During  
21 2008, three (3) additional FTEs were added as part of a supplemental budget  
22 request (one FTE went to Treasury & Credit Administration, two FTEs went to  
23 Accounting & Budget). The Finance "deep dive" task analysis showed a need for  
24 68 FTEs, but we recognized this estimate should be adjusted somewhat because  
25 of the headcount related to the Program Management Office ("PMO").  
26 The PMO's workload varies dramatically based on the number and type of  
27 projects that are active during the course of a year. To manage this fluctuation,  
28 the PMO utilizes contractors on certain projects rather than hiring new employees.  
29 Therefore, the PMO is not staffed with FTEs at the full level to meet its estimated  
30 tasks.

1 When the anomaly regarding the PMO is removed from the task analysis, the  
2 overall headcount requested is two (2) less FTEs than in the final 2008 headcount.  
3 The total Board-authorized 2009 headcount in the Board-approved budget totals  
4 61 FTEs.  
5

6 **Q. WHAT ARE THE SPECIFIC HEADCOUNT REQUESTS FOR EACH**  
7 **DEPARTMENT WITHIN THE CORPORATE ADMINISTRATION**  
8 **DIVISION?**

9 A. Table 1 below compares the departmental FTE numbers Board-authorized in 2008  
10 (including the 2008 supplemental authorization discussed above) to those  
11 approved in the 2009 budget by the ERCOT Board of Directors:  
12

13 **Table 1: Finance**  
14 **Summary of Staffing**  
15

Department	2008 Authorized	2009 Requested
111 – Treasury & Credit Admin.	10	10
112 – Contract Admin. & Procurement	11	10
113 – Internal Controls Management Program (“ICMP”)	3	3
114 – Accounting & Budget	21	20
350 – Program Management Office	1	1
351 – Corporate Administration Divisional Project Organization	6	6
352 – Program Management Office Planning, Quality & Reporting	7	7
353 – Program Administration	4	4

16  
17 **Q. DIRECTING YOUR ATTENTION TO THE HEADCOUNTS FOR THE**  
18 **DEPARTMENTS WITHIN FINANCE, PLEASE DESCRIBE THE**  
19 **RATIONALE FOR THE 2009 HEADCOUNT FOR THE TREASURY &**  
20 **CREDIT ADMIN DEPARTMENT (111).**



1 A. The Treasury & Credit Administration department headcount for 2009 is at ten  
2 (10) FTEs, the same level as in 2008. The department manages ERCOT's credit,  
3 financing, debt, and banking arrangements as well as ERCOT's risk management  
4 function. In addition to managing ERCOT's treasury functions, the department  
5 staff also conducts credit analysis of Market Participants for purposes of credit  
6 scoring and manages collateral for non credit-worthy Market Participants. The  
7 credit management functions account for over 40 percent of the department's  
8 workload, and are expected to include additional tasks once the Nodal Day-Ahead  
9 Market is implemented. Treasury & Credit Administration has increased its  
10 staffing in recent years, in part to prepare for the increased demands associated  
11 with operating a Nodal market structure. The department is thus able perform its  
12 tasks without increasing headcount in 2009.

13

14 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
15 **FOR THE CONTRACT ADMINISTRATION & PROCUREMENT**  
16 **DEPARTMENT (112).**

17 A. The Contract Administration & Procurement department's headcount for 2009 is  
18 ten (10) FTEs, down one from the 2008 headcount. Contract Administration &  
19 Procurement personnel experienced a surge of work during the Nodal Program  
20 due to the numerous vendor and consultant contracts involved in Nodal  
21 implementation. The department added staff in recent years, and has also relied  
22 on contractors to meet the Nodal-generated workload. After Nodal Go-Live, the  
23 department expects it will eliminate its use of contractors and can reduce its  
24 headcount by one (1) FTE. Department staff also projects a reduction in staffing  
25 needs due to efficiencies gained from the outsourcing of contingent workforce  
26 management and automation projects directed at streamlining procurement  
27 practices.

28

29 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
30 **FOR THE INTERNAL CONTROLS MANAGEMENT PROGRAM**  
31 **("ICMP") DEPARTMENT (113).**

32

1 A. The ICMP department headcount for 2009 is at three (3) FTEs, the same level as  
2 in 2008. The department administers ERCOT's decentralized internal control  
3 processes and practices including responsibilities such as (i) managing agendas  
4 and activity of ERCOT's Policy Review Team and Executive Review Team; (ii)  
5 coordinating the development and delivery or training relating to internal control  
6 policies, standards, and procedures; (iii) coordinating the preparation and  
7 retention control documentation; (iv) ensuring the periodic review of internal  
8 control processes by process owners; (v) regularly testing the effectiveness of  
9 control activities and procedures; and (vi) administering ERCOT's centralized  
10 management exception process. The ICMP deep dive estimated that its ongoing  
11 workload would require additional FTEs, but the department committed to  
12 holding its staffing at current levels to complete its tasks in 2009.

13

14 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
15 **FOR THE ACCOUNTING & BUDGET DEPARTMENT (114).**

16 A. The 2009 headcount for the Accounting & Budget department is 20 FTEs, down  
17 one (1) FTE from 2008. The tasks assigned to the Accounting & Budget staff  
18 have increased substantially since the System Administration Fee was last  
19 reviewed in 2006. Much of the work associated with improving ERCOT's  
20 financial credibility has been done by Accounting & Budget, including

- 21 (1) Development and implementation of financial control policies;  
22 (2) Implementation and maintenance of the employee time-tracking system;  
23 (3) Accounting and budget support for the Nodal Program, including  
24 preparation of Fee Filing Package materials for Nodal funding requests;  
25 (4) Ongoing administrative support for the Texas RE; and  
26 (5) Implementing actions in response to audits, and providing data to auditors  
27 and others evaluating ERCOT financial performance.

28 These tasks are in addition to the payroll, accounting, and budget development  
29 tasks that are the core mission of the department staff. The Accounting & Budget  
30 deep dive estimated that its ongoing workload would require additional FTEs, but  
31 due to the expected use of contractors and the anticipated wind down of the Nodal

1 program, the department committed to holding its staffing at 20 FTEs to complete  
2 its tasks in 2009.

3 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
4 **FOR THE DEPARTMENTS THAT COMPRISE THE PROGRAM**  
5 **MANAGEMENT OFFICE (DEPARTMENTS 350-353).**

6 A. The Program Management Office (“PMO”) headcount in the 2009 budget is 18  
7 FTEs. The PMO headcount holds steady at the same level as Board-authorized in  
8 2008. As described above, the amount of resources devoted to the PMO is  
9 directly related to the number and scope of active projects going on at ERCOT at  
10 any particular time. The PMO utilizes contractors to provide project management  
11 services if the number of active projects exceeds the capacity of the ERCOT  
12 employees assigned to the PMO. In addition to project management, the PMO  
13 manages the process for prioritizing capital projects (including the process for  
14 developing and changing the PPL). The PMO staff also prepares impact analyses  
15 for proposed projects and assesses and reports on project quality and timeliness.  
16 The PMO is separated into 4 administrative departments due to the nature of work  
17 it performs; each department has a distinct set of duties. Along with allowing for  
18 the division of work, this structure enables the PMO team to budget and track  
19 costs separately for trends and accountability at the manager-level.

20  
21 **VII. FINANCE ORGANIZATION BUDGET & CAPITAL PROJECTS**

22  
23 **Q. PLEASE DESCRIBE THE OUTSIDE SERVICES THE FINANCE**  
24 **ORGANIZATION EXPECTS TO USE IN 2009.**

25 A. The outside services used by the Finance organization are predominantly  
26 professional services that ERCOT cannot provide using in-house resources. The  
27 largest outside service expense expected for 2009 is for external cash/banking  
28 services necessary to perform daily operations. An independent financial audit  
29 must also be performed annually. Other outside services Finance expects to use  
30 are for professionals such as actuaries, who assist with compliance and tax  
31 reporting issues. It would not be cost-effective to keep such professionals on staff

1 when they perform very specialized services on an occasional basis for ERCOT.  
2 Finance also expects to use limited outside expertise associated with its  
3 automation upgrades, such as experts in the software tools ERCOT is integrating  
4 into its finance and procurement practices. The outside services budget for  
5 Finance also includes the cost of subscriptions to services necessary for credit  
6 analysis, such as Moody's and Bloomberg.

7 **Q. HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
8 **OUTSIDE SERVICES FOR THE CORPORATE ADMINISTRATION**  
9 **DIVISION?**

10 A. Generally, management determined that number by either (1) estimating the  
11 number of hours of outside services required for a given project or task; or (2) if  
12 contemplated as fixed fee services, estimating costs based on prior experience. If  
13 calculated based on a time and materials basis, we multiplied the hours by an  
14 average hourly rate based on ERCOT's past experience with paying personnel  
15 with the required skill sets and background to perform the task.

16  
17 **Q. IN YOUR OPINION, IS THE AMOUNT BUDGETED FOR OUTSIDE**  
18 **SERVICES A REASONABLE AMOUNT TO ACCOMPLISH THE**  
19 **SCHEDULED TASKS FOR 2009?**

20 A. Yes, the amount included in the 2009 budget for outside services is reasonable to  
21 accomplish the tasks for 2009.

22  
23 **Q. ARE THERE PROJECTS INCLUDED IN THE PPL FOR 2009 THAT**  
24 **SUPPORT THE FINANCE ORGANIZATION'S FUNCTIONS?**

25 A. Yes. There are several PPL projects scheduled for 2009 that will assist Finance in  
26 streamlining accounting, procurement, and project management activities. The  
27 specific requirements of some of the projects will be determined based on a  
28 scheduled business process review of procurement and finance operations. These  
29 projects include:

- 30 (1) Development of programs with the Lawson Process flow toolset, which  
31 automates the flow of information to business processes. ERCOT also

1 plans to implement the Lawson “E-Procurement” application, which  
2 speeds procurement by permitting designated individuals to shop for  
3 goods from pre-approved vendors online.

4 (2) Upgrade or replacement of the Enterprise Project Management (“EPM”)  
5 tool, which will facilitate improvements in ERCOT’s ability to implement  
6 streamlined portfolio management and reporting processes.

7 (3) Complete Phase 2 of the Vendor Contract Management program. This  
8 project will link the automated contract approval process with the contract  
9 and vendor database.

10

11 **Q. ARE THE EXPENSES IN THE 2009 ERCOT BUDGET FOR THE**  
12 **FINANCE ORGANIZATION REASONABLE AND NECESSARY?**

13 A. Yes. The expenses are reasonable and necessary for the Finance organization to  
14 accomplish its role in ERCOT’s function as an independent system operator under  
15 Texas Utilities Code § 39.151.

16

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 A. Yes, it does.

## ERCOT CORPORATE STANDARD

Document Name:	Financial Corporate Standard
Document ID:	CS3.1
Effective Date:	November 13, 2007
Owner:	Board of Directors, F&A Committee
Approved:	Board of Directors, F&A Committee

### 1.0 PURPOSE

This financial corporate standard is a framework from which ERCOT's financial integrity will be maintained while serving the long-term interests of the company and the ERCOT market. ERCOT recognizes that maintaining financial integrity is critical to accomplishing its corporate goals and discharging ERCOT's primary responsibilities.

### 2.0 DEFINITIONS

TERM	DEFINITION
Budget	The Budget consists of Project Budgets, an Operating and Maintenance Budget and a Texas Regional Entity Division of ERCOT ("TRE") Budget as a component.
Project Budgets	Project Budgets consist of proposed expenditures to be made to develop capital assets during ERCOT's Fiscal Year. Any significant projects not included in the approved project budgets will be presented to ERCOT's Board of Directors for approval as they arise.
Cash Operating and Maintenance Expenses	Cash Operating and Maintenance Expenses consist of all reasonable and necessary costs (excluding non-cash items such as depreciation and amortization) incurred in the operation and maintenance of ERCOT's facilities, equipment and systems.
Fiscal Year	ERCOT's fiscal year is January 1 <sup>st</sup> through December 31 <sup>st</sup> .
NERC	North American Electric Reliability Corporation, the entity currently certified as the Electric Reliability Organization by FERC.
Operating and Maintenance Budget	The Operating and Maintenance Budget consists of all reasonable and necessary costs expected to be incurred during ERCOT's Fiscal Year.
TRE Budget	The TRE Budget is the budget (which can include both operating and

TERM	DEFINITION
	maintenance and project budgets) for the TRE which is approved by NERC and Federal Energy Regulatory Commission (FERC) and which is used exclusively for the TRE's proposal and enforcement of Reliability Standards (Federal Statutory duties) and for ERCOT Protocol and Operating Guide compliance investigation activities.
Scheduled Debt Service	Scheduled Debt Service is all interest and mandatory principal payments due on ERCOT's outstanding indebtedness (both long-term and short-term) for a stated period.
Strategic Financial Plan	The Strategic Financial Plan will provide current financial information and a five-year projection, which addresses all sources of revenues, including any proposed fee adjustments. It will include projections of operating and maintenance expenses, project expenditures, the funding sources of project expenditures, and debt service requirements as well as the resulting capital structure.

### 3.0 FINANCIAL OBJECTIVES

In seeking to fulfill its corporate objectives, ERCOT will maintain a high level of financial stability and will not compromise long-term financial integrity to achieve short-term benefits.

**Strategic Financial Plan and Budget.** Prior to or in conjunction with the submission of the annual Budget, the Chief Financial Officer will submit an update to the Strategic Financial Plan.

The Budget will be substantially consistent with the Strategic Financial Plan and will be submitted to the Board with sufficient time for the review and approval of the Board prior to the beginning of the Fiscal Year. The TRE Budget component of the Budget may be approved in advance of the full Budget if required to meet deadlines set by regulators.

In developing the Strategic Financial Plan and Budget, ERCOT staff will work to ensure that financial ratios required for compliance with debt instruments are maintained.

ERCOT will pursue financial objectives that will allow it to maintain an investment grade debt rating with Standard & Poor's, Moody's or Fitch. If a rating below investment grade is received or expected to be received, staff will promptly recommend a plan for Board consideration to recover or maintain the targeted rating within 18 months.

Overall, the Strategic Financial Plan and the related Budget will seek to assure ERCOT's financial stability. They will be approved by the Board and will guide ERCOT's financial planning process.

**Fees and Charges.** ERCOT will assess fees consistent with the ERCOT Protocols and PUCT rulings. Established fees will include payment of the portion of the TRE Budget for ERCOT Protocol and Operating Guide compliance investigation activities. ERCOT

will also collect fees on behalf of the Electric Reliability Organization as approved by FERC. The TRE will also receive funding for its Federal Statutory duties from NERC, pursuant to its Delegation Agreement. Fees, funding, and charges will be requested to recover the Board-approved Operating and Maintenance Budget (excluding depreciation and amortization), Scheduled Debt Service (less any principal payments reasonably expected to be refinanced), and the portions of Project Budgets that are to be financed with revenue. Fee adjustments, if necessary, will generally be developed and proposed in connection with ERCOT's annual Budget.

ERCOT will use all reasonable means to operate within the approved Budget for the current year. When unforeseen events occur (e.g. MWh's are significantly over or under projected levels, functionality is added or removed, etc.) and as a result, ERCOT experiences or expects to experience in the next 12 month period more than a 25% variance from 1) its Project Budgets, 2) its Operating and Maintenance Budget (excluding depreciation and amortization), or 3) its projected revenue stream, staff will promptly recommend a plan for Board consideration, which may include cost reductions or additions, fee increases or decreases, or other means to ensure that approved functions can be maintained, capital expended and expenses paid in the normal course of business.

**Sources of Financing.** ERCOT will use a combination of equity (revenue funding) and debt to finance projects. In determining the combination of equity and debt to be used in any particular year, ERCOT will consider the impact of the current year decision on future years.

Generally, ERCOT will structure debt issues such that the average maturity of the debt approximates the average life of the assets financed; however, debt issues may be structured with a longer or shorter average maturity if economically justified.

ERCOT may use variable-rate debt to provide flexibility in its overall financing program and to manage its overall interest rate exposure. However, in no event will ERCOT allow unhedged, variable rate debt to be more than 40% of total debt outstanding.

ERCOT will periodically evaluate the interest rate environment and review ways to manage interest rate exposure within that environment.

As appropriate, ERCOT will periodically evaluate mechanisms to restructure or refinance debt. ERCOT will regularly evaluate alternatives to conventional financing to obtain the lowest overall cost of borrowing while still meeting the objectives of this financial corporate standard.

**Liquidity.** ERCOT will seek to maintain adequate liquidity to meet its business needs. Liquidity is the combination of available 1) operating cash on hand, 2) operating cash equivalents / short term investments and 3) undrawn borrowing capacity under credit facilities.

ERCOT's targeted minimum level of liquidity will factor in: 1) six months of forecasted Scheduled Debt Service, other than principal payments reasonably expected to be refinanced, 2) two months of average Cash Operating and Maintenance Expenses, net of projected administrative fee receipts, 3) two months of budgeted project



expenditures, and 4) two months of estimated TCRs expected to be paid, net of projected TCR receipts during the same period.

If at any time ERCOT's liquidity is less than or is expected to be less than the targeted minimum level set forth in this corporate standard, staff will promptly recommend a plan for Board consideration to achieve the liquidity target within six months.

Funds received in conjunction with TCR auctions may be utilized to fund ERCOT working capital and project expenditure needs so long as liquidity is at or above the target levels and ERCOT's issuer rating remains investment grade. These funds may be utilized in place of borrowing under short term credit facilities to meet liquidity needs.

#### **4.0 RESPONSIBILITIES**

It is the responsibility of the Chief Executive Officer, Chief Compliance Officer and Chief Financial Officer to ensure that this corporate standard is implemented appropriately and to recommend changes in the standard as needed.

#### **5.0 FINANCIAL STANDARD ADOPTION**

ERCOT's financial corporate standard will be adopted by resolution of the Board of Directors. The corporate standard will be reviewed annually by the Finance and Audit Committee and any modifications made thereto must be approved by the Board of Directors.



# ERCOT Organizational Deep Dive

FINANCE

Steve Byone

Vice President and Chief Financial Officer

**May 2008**

- **Summary Findings**
  - Outside factors impacting staffing
  - Performance overview
- **Organization Overview**
  - Core functions
  - Organization structure
  - Skill analysis
- **Task Analysis Results**
  - Headcount summary data
  - Analysis and conclusions
  - Next steps



# Summary of Findings

# Summary of Staffing

Department	2008 Budget	2008 Authorized	2009 Task Analysis	2009 Requested
111 - Treasury & Credit Administration	9	10	10.4	10
112 - Contract Admin & Procurement	12	11	10.2	10
113 – Internal Controls Management Program	3	3	4	3 *
114 – Accounting and Budget	19	21	21	20 *
350, 351, 352, 353 - PMO	17	18	23	18 **
Total	60	63	68.6	61

## Summary Point

- Increase in '08 headcount primarily driven by increased requirements in credit and controls and the need to file updated fee cases (Nodal & Base)

*These numbers current as of 5/1/2008*

*\* Accounting/Budget/ICMP – Process automation, improvement in efficiencies and use of contractors will help manage the workload/FTE variance.*

*\*\* PMO – 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.*

- **Oversight authorities more demanding**
  - Finance & Audit
    - Sarbanes-Oxley (light)
    - ERM & corporate compliance
  - PUCT
  - External Auditors
- **More volume and increasingly complex structure**
  - Base operations
  - Separation of Nodal activity from other operations
  - Texas Regional Entity accounting
  - Independent Market Monitor
- **Increased sophistication required**
  - Loan structures
  - Financial hedging (swaps)
  - Financial Accounting Standard #71 (regulatory accounting)
  - Pensions
  - Credit management
  - Etc.

## External

- **Strong view of improved performance**
  - Cleaner audits
  - Improved reporting
  - Better financial performance
  - Strengthened credit oversight
  - Stronger rate filings
- **Improved trust in quality of information**

## Internal

- **Mixed bag**
  - Tighter controls (ICMP process) applied more consistently
    - Viewed (internally) as overly bureaucratic
    - Differing (internal) views regarding sufficiency of controls
  - Increased cost scrutiny / tighter budgets / better analysis
    - Less room for business managers to maneuver
    - Seeking further improvement in this area
  - Procurement is a sore spot
    - Several notable improvements underway

## **Task Analysis reveals more work than resources requested...**

- **Plans in progress to achieve efficiencies (some company-wide impacts)**
  - Lawson configuration
    - Workflow process
    - Time tracking & Payroll
    - General Ledger
    - Benefits & Recruiting
  - CCM (Nodal credit automation)
  - Expense report automation
  - Procurement improvements
    - Contingent workforce management
    - Requisition self service
    - Procure-to-Pay process improvement
  - Project Server upgrade
- **Will use contractor augmentation to address deficiencies and workload variability**

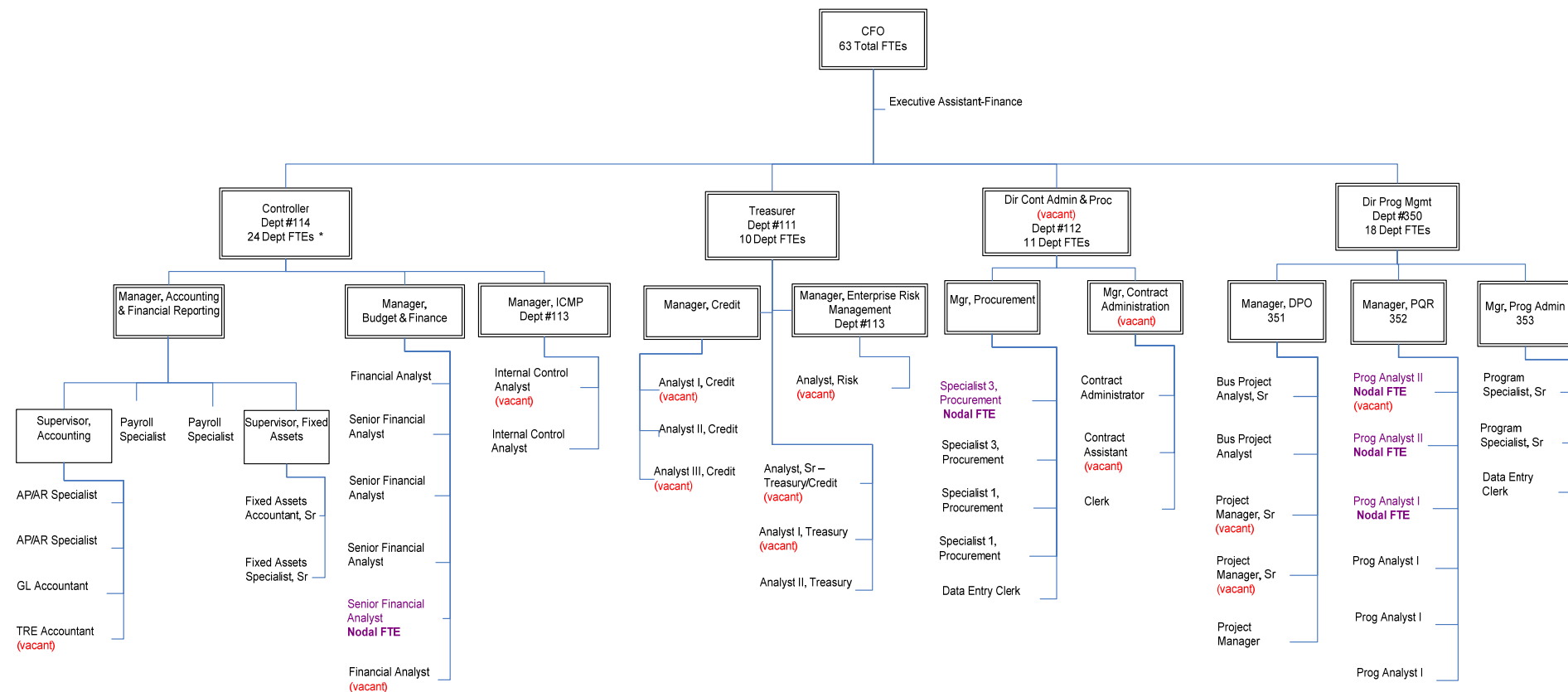


- **Streamline & simplify control processes where possible**
- **Program Management practices**
- **Development and administration of Controls, independent audits and compliance**
- **Development of SLAs for Finance services**
  - Texas Regional Entity
  - Business areas (later)



# Organization Overview

# FINANCE – Organizational Chart (2008 Supplemental)



## Legend

Purple = Nodal  
Red = vacancy

## \*Note:

Actual perm FTE (w/ 5 Nodal FTEs) = 63

\* Includes CFO & Executive Assistant

An increase of 3 positions were authorized after the approval of the 2008 budget, based on the results from the task analysis.

# FINANCE – Core Functions

Accounting	Treasury & Credit	Contracts Admin & Procurement	Program Management
<ol style="list-style-type: none"> <li>1. Financial statements &amp; controls</li> <li>2. Budgets</li> <li>3. AR/AP</li> <li>4. Payroll</li> <li>5. Financial analysis &amp; reporting</li> <li>6. Management &amp; administration</li> </ol>	<ol style="list-style-type: none"> <li>1. Credit mgmt / administer CMM</li> <li>2. Financing &amp; Debt mgmt</li> <li>3. ERM (includes insurance programs)</li> <li>4. Cash, investments &amp; banking</li> <li>5. Management &amp; administration</li> </ol>	<ol style="list-style-type: none"> <li>1. RFP/RFI &amp; other competitive processes</li> <li>2. Vendor selection &amp; mgmt</li> <li>3. Contract administration</li> <li>4. PO administration</li> <li>5. Management &amp; administration</li> </ol>	<ol style="list-style-type: none"> <li>1. Governance, methodology &amp; tools</li> <li>2. Project prioritization &amp; impact analysis</li> <li>3. Project quality review and compliance</li> <li>4. Project, divisional &amp; enterprise reporting</li> <li>5. CO project &amp; portfolio management</li> <li>6. Management &amp; administration</li> </ol>

*Finance organizes and facilitates Finance and Audit Committee monthly meetings.*

# FINANCE – Annualized Activity Levels

Accounting	Treasury & Credit	Contracts Admin & Procurement	Program Management
<p>AP Invoices = ~15,000</p> <p>Checks = ~7,800</p> <p>Expense reimbursements = 1,500</p> <p>Control objectives = 330</p> <p>Control activities = 726</p> <p>Policies/standards / procedures = 100+</p> <p>New audit points = 150+</p> <p>Management exceptions = 250</p>	<p>Corp debt program = ~\$400MM</p> <p>Cash investments = ~\$150 MM</p> <p>Cash movements = ~\$4 Billion</p> <p>Collateral instrument mgmt = \$1Billion</p>	<p>POs = ~1,100</p> <p>Line items = ~3500</p> <p>Contracts = ~500</p> <p>SOWs = ~400</p> <p>Spend = ~\$160MM</p>	<p>Projects = ~100 (\$44MM)</p> <p>Corp projects = ~22</p> <p>Project/portfolio training = ~150 staff</p> <p>Impact analyses = ~175</p>

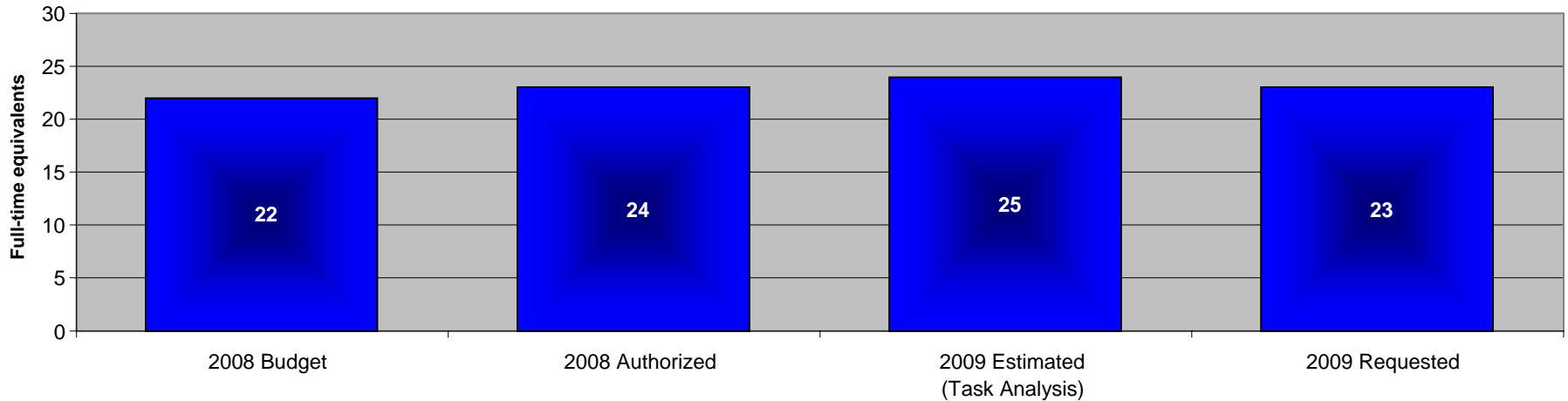


# Task Analysis

## **Accounting & Budget – Departments 113 & 114**

# Accounting and Budget – Departments 113 & 114

## Headcount Overview

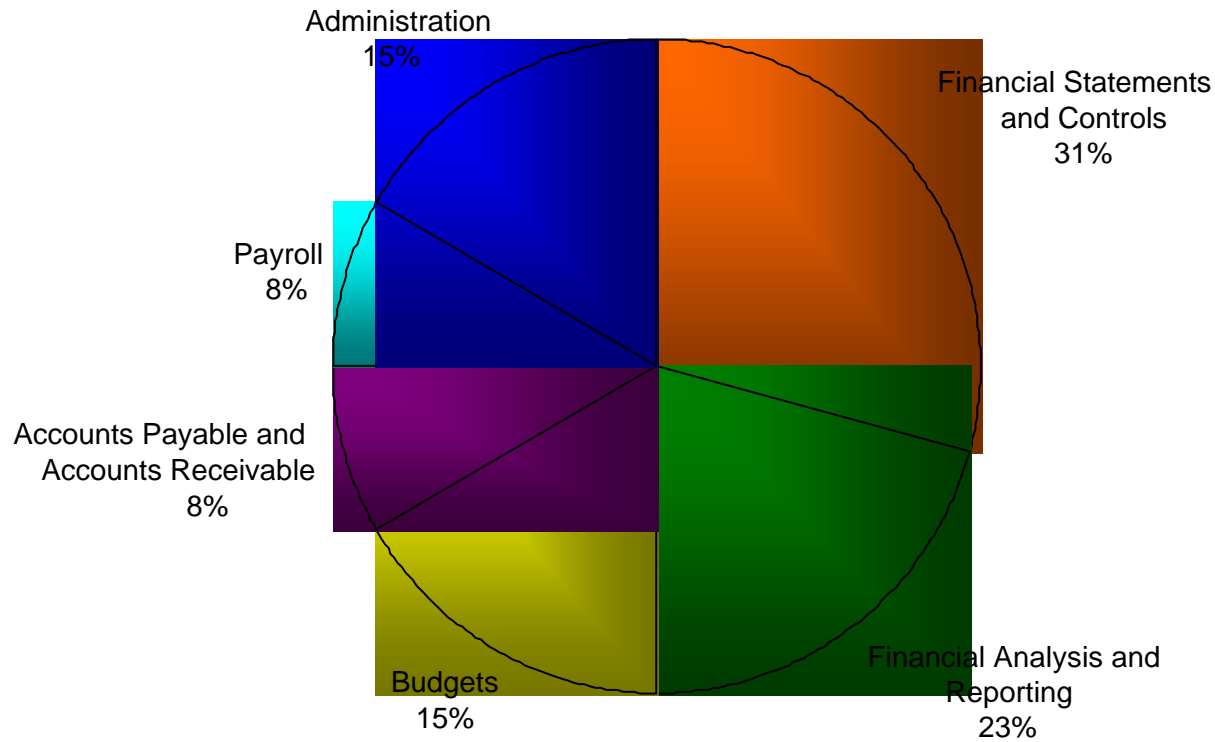


### Summary Points

- ❑ Accounting and budget responsibilities and the effort to fulfill assigned tasks have increased since 2006 for a variety of reasons including: internal control activity; Nodal Program support; Texas RE support; and increased utilization of time tracking data
- ❑ Detailed task analysis suggests need for 25 full-time equivalents
- ❑ In 2008, attempting to fulfill obligations with 24 full-time equivalents
- ❑ In 2009, will reduce staffing by 1 FTE and seek to fulfill obligations with 23 full-time equivalents
  - 1 FTE reduction from elimination of Nodal project - augment as necessary with contractors
- ❑ Will use contractors to supplement staff as needed



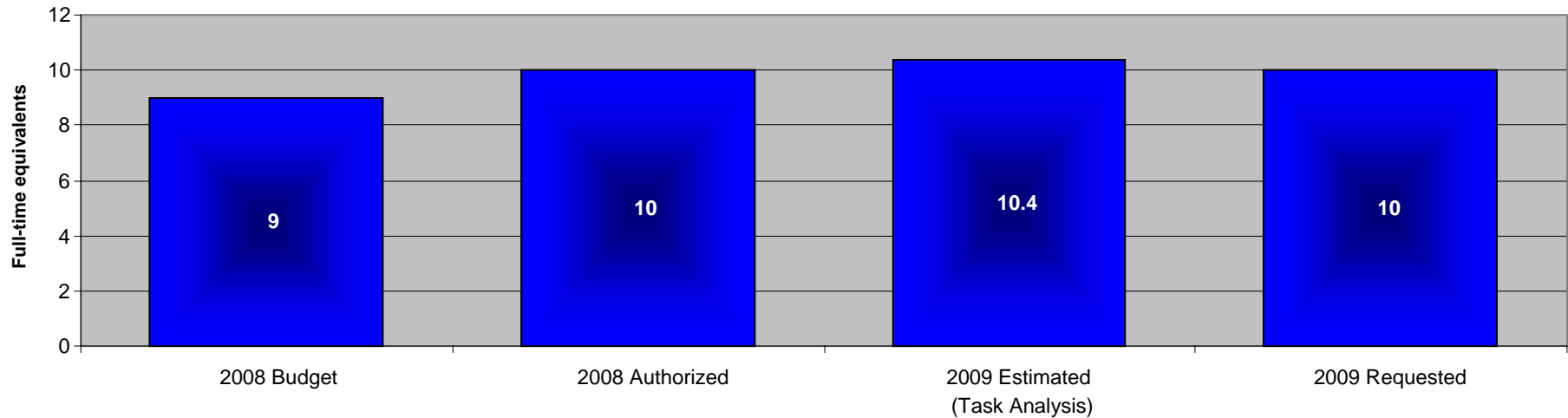
# 113 & 114 – Accounting and Budget 2009 Requested Allocation by Function



## **Treasurer – Department 111**

# Treasurer – Department 111

## Headcount Overview



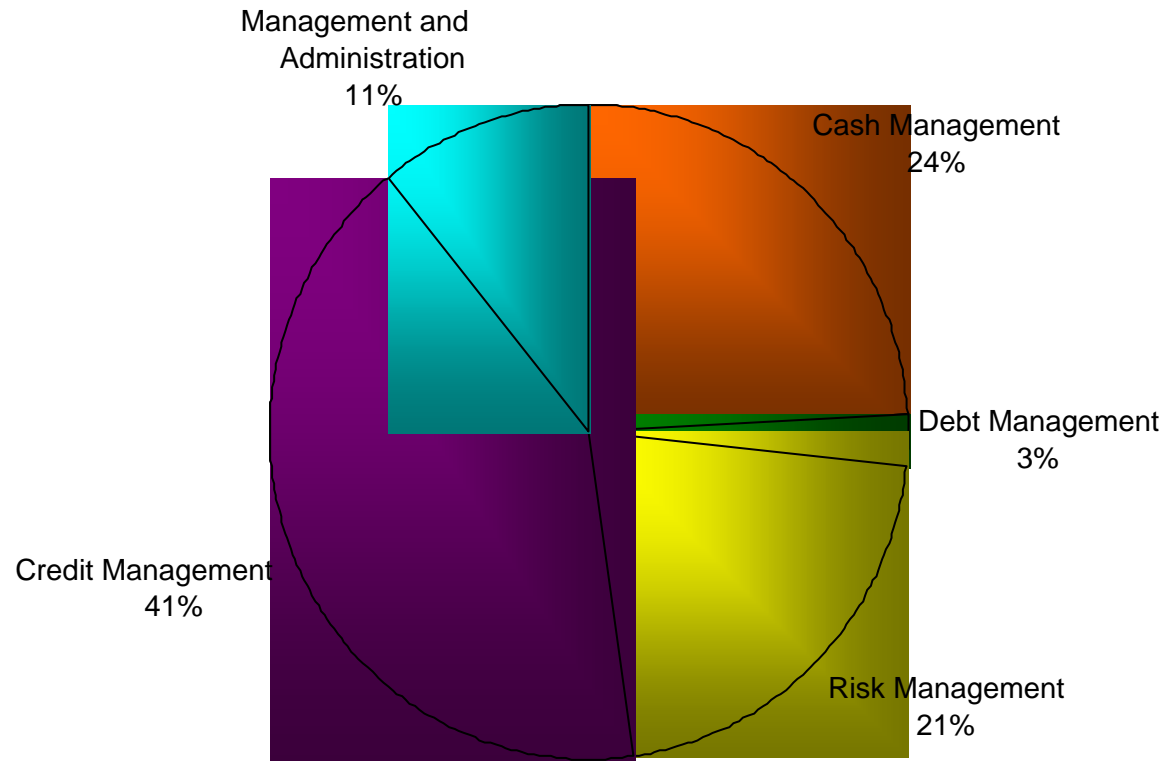
### Summary Points

Recent staff growth in the Treasury group can be summarized as follows:

- ❑ One additional Treasury staff to support additional tasks resulting from Nodal DAM
- ❑ One additional Credit staff to support additional complexity of exposure calculations and higher number of QSEs participating in the market
- ❑ One additional Credit staff to support more complete credit analysis of market participants for credit scoring
- ❑ One additional Risk Management staff to support risk management, measurement and tracking in the Nodal environment

# Treasurer – Department 111

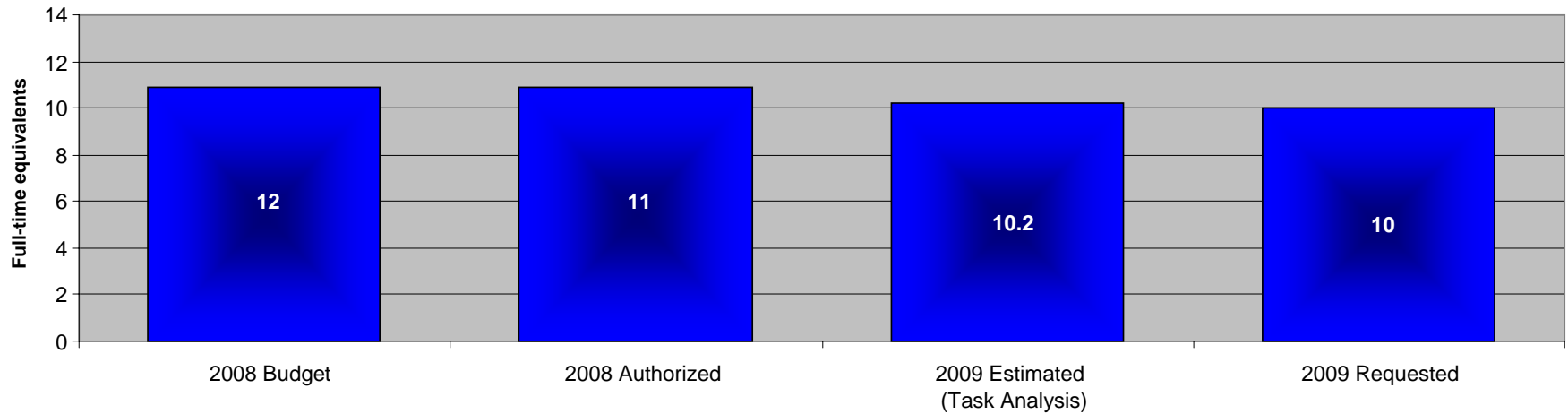
## 2009 Requested Allocation by Function



## **Contract Administration & Procurement – Department 112**

# Contract Administration and Procurement – Department 112

## Headcount Overview

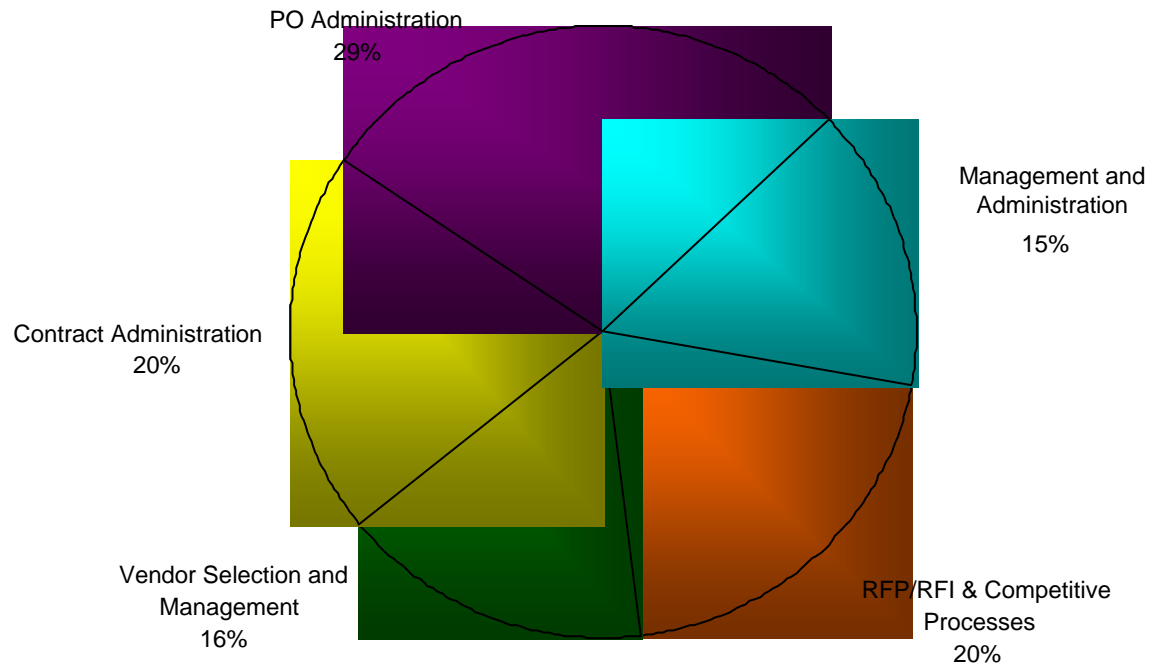


### Summary Points

- ❑ Transitioned an FTE to Legal resulting in a 2008 authorization reduction
- ❑ Projected reduction in FTE due to process re-engineering, automation and expected activity reduction post nodal go-live
- ❑ Current use of contractors also expected to be eliminated post nodal go-live

# Contract Administration and Procurement – Department 112

## 2009 Requested Allocation by Function

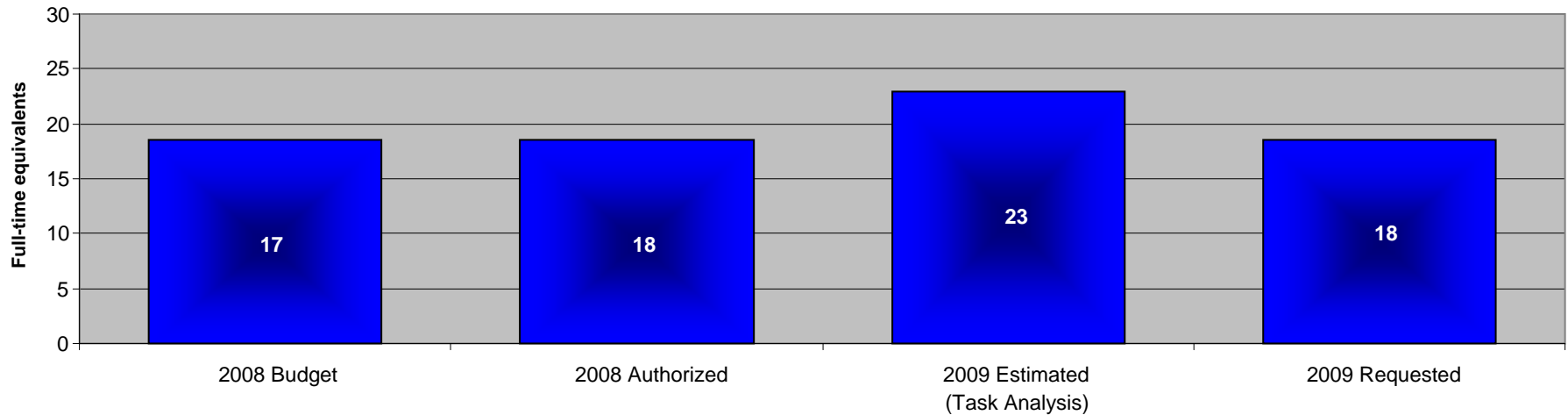


## **PMO – Department 350, 351, 352 & 353**



# PMO – Departments 350, 351, 352 & 353

## Headcount Overview

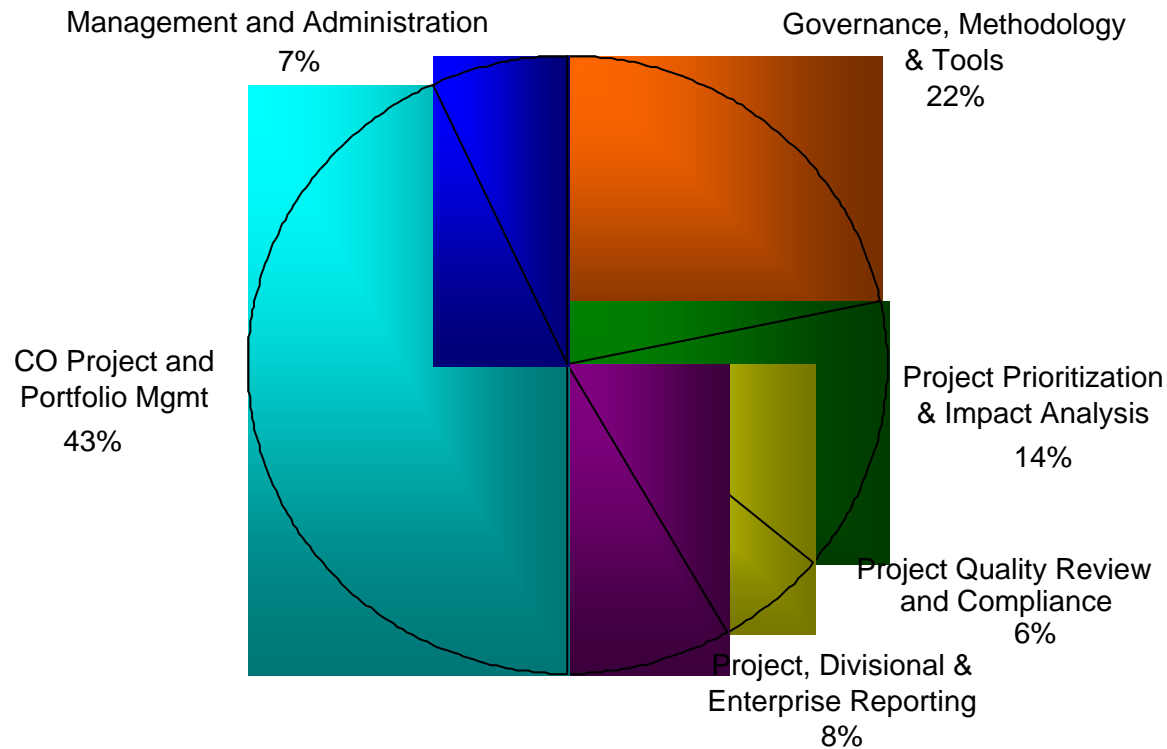


### Summary Points

- ❑ Additional headcount authorized in 2008 to support Nodal activities
- ❑ 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, staff presently performing Nodal activities will begin addressing previously unmet tasks (training, metrics). Additionally, contractors backfilling for nodal support will be eliminated.

# PMO – Departments 350, 351, 352 & 353

## 2009 Requested Allocation by Function



Questions?

**DIRECT TESTIMONY OF**

**BILL BOJORQUEZ**

**VICE-PRESIDENT OF SYSTEM PLANNING**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1 **DIRECT TESTIMONY OF BILL BOJORQUEZ**

2

3 **I. INTRODUCTION AND WITNESS QUALIFICATIONS**

4 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

5 A. My name is Bill Bojorquez. My business address is 7620 Metro Center Drive,  
6 Austin, Texas 78744.

7

8 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

9 A. I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
10 Vice-President of System Planning. I joined ERCOT in February 2000, and was  
11 appointed to my current position in September 2002.

12

13 **Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
14 **QUALIFICATIONS.**

15 A. I earned a Bachelors Degree in Electrical Engineering and a Masters of Business  
16 Administration from the California State Polytechnic University, Pomona, and I  
17 am a certified Professional Engineer in the state of California. Prior to joining the  
18 ERCOT staff, I worked at the California Independent System Operator ("ISO") as  
19 Director of Settlements and Metering. At the California ISO, I had responsibility  
20 for over \$2 billion in annual Market and Reliability Must Run contract settlements  
21 and energy billing in California. This included the development and  
22 implementation of Settlements and Metering systems and infrastructure required  
23 to facilitate retail competition approved in 1996. Before joining the California  
24 ISO, I worked at Southern California Edison in various positions in the System  
25 Operations and Transmission Planning departments. I have over 18 years of  
26 experience in the electric industry.

27

28 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS VICE-PRESIDENT**  
29 **OF SYSTEM PLANNING.**

1 A. As Vice President of System Planning for ERCOT, I am responsible for the  
2 review of transmission and generation adequacy in the region, oversight of  
3 transmission system additions, Congestion Revenue Right (“CRR”) Auctions,  
4 Renewable Energy Credit (“REC”) Trading, new generation interconnection  
5 studies, long-term and Renewable Energy Zone (“CREZ”) transmission studies,  
6 and the development of transmission service policies enabling a competitive  
7 market in the ERCOT region.

8 I represent ERCOT in the North American Energy Reliability Council (“NERC”)  
9 Planning Committee, and serve as the Chairman of the NERC Reliability  
10 Assessment Subcommittee responsible for seasonal and long-term reliability  
11 assessment of the NERC regions.  
12

13 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
14 **COMMISSION OF TEXAS?**

15 A. No.  
16

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. My testimony supports ERCOT’s request for a revised System Administration  
19 Fee (“SAF”). First, my testimony focuses on the funding requirements of the  
20 System Planning division, the organization within ERCOT for which I am  
21 responsible. I provide an overview of the System Planning organization and of  
22 the changing demands facing System Planning as ERCOT addresses changes  
23 brought on by the transition to a Nodal market, by the increase in work associated  
24 with NERC standards and oversight, and by the increased interest from  
25 policymakers in long-term planning for Texas’ electric generation and  
26 transmission needs. I discuss the results of the “deep dive” analysis supporting  
27 the System Planning division’s headcount proposed in the 2009 budget approved  
28 by the ERCOT Board of Directors. I also address the justifications for System  
29 Planning expenditures not associated directly with its personnel headcount.  
30 Second, I discuss the rationale for ERCOT’s request for a new fee structure for  
31 the “Security Screening Studies” that are included as part of ERCOT’s generation

1 interconnection assessment procedures and services. Third, I discuss the 2009  
2 energy forecast that ERCOT used in determining the amount of its proposed  
3 System Administration Fee.  
4

## 5 II. OVERVIEW OF THE SYSTEM PLANNING DIVISION 6

### 7 Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE 8 SYSTEM PLANNING DIVISION OF ERCOT.

9 A. The System Planning division provides information and technical advice  
10 regarding electric system planning, reliability assessments and transmission  
11 congestion matters to the members of ERCOT and its Board of Directors, Market  
12 Participants, the Commission, and other public and private regulatory and  
13 standard-setting bodies. The System Planning division is responsible for the  
14 following:

- 15 (1) exercising comprehensive, independent planning authority over the  
16 ERCOT transmission grid and the interconnection of new or additional  
17 generation by collecting data, developing models, conducting technical  
18 studies and economic assessments, and providing strategies, policies,  
19 procedures and methodologies associated with the reliable operation of the  
20 grid;
- 21 (2) administering ERCOT's open planning process that provides all ERCOT  
22 stakeholders opportunities to participate in planning for the ERCOT grid;
- 23 (3) serving as the primary keeper and developer of all power system planning  
24 data and models, including the database for generation interconnection  
25 activities, load and generation information;
- 26 (4) ensuring that ERCOT System Planning complies with planning-related  
27 NERC standards including the review and comment on new or revised  
28 NERC standards;
- 29 (5) providing timely and accurate load forecasting, transmission planning  
30 studies, and resource adequacy analyses;

- (6) facilitating the interconnection of new and added generation capacity to the grid;
- (7) preparing timely and accurate system congestion analyses and, in the Nodal market, administering the new CRR market;
- (8) managing the Texas REC program and the Emissions Labeling Program;
- (9) providing regulatory support by fulfilling requests for data, reports, and studies to the Commission, NERC, and ERCOT stakeholders; and
- (10) supporting the work of ERCOT committees, subcommittees, and task forces.

**Q. PLEASE DESCRIBE THE SYSTEM PLANNING DIVISION'S RECENT MAJOR ACCOMPLISHMENTS.**

A. ERCOT System Planning staff plays an integral role in providing information and technical advice regarding some of the most important issues facing the Texas electric market. The System Planning staff administers the Texas REC trading program for seventy (70) resource entities and three hundred sixty-seven (367) other Market Participants, issuing more than 10 million RECs to Texas renewable energy generation companies. In 2007, ninety-one (91) competitive retail electricity providers ("REPs") retired approximately 3.4 million RECs in order to satisfy the annual mandate within the portfolio standard. An additional 1.6 million RECs were retired in the voluntary market. Entities retire RECs in the voluntary market to substantiate their "green energy" support of the clean-air initiative in Texas. The REC trading program was established as part of the Legislature's restructuring of the state's electricity market in 1999. The REC program in Texas is the longest-running and most active in the U.S., and it is accomplishing its goal of bringing "clean" renewable resources to Texas at a record pace. The original statutory goal of the program was to install 2,000 MW of additional renewable resource generation in Texas by the year 2009. Texas has rapidly moved beyond the original goals. More than 4,000 MW of wind power has been added since 2001.



1 As the transmission system nears the limits of how much wind energy transfer it  
2 can handle, ERCOT has worked with the Commission on the designation of  
3 CREZs, as instructed by Texas Senate Bill 20 (2005) to facilitate transmission  
4 development. ERCOT System Planning staff provided expert testimony and  
5 related support for the CREZ docket. At the Commission's direction, the Planning  
6 staff developed a process and comprehensive studies analyzing four specific  
7 CREZ scenarios.

8 System Planning regularly provides seasonal assessments and five-year  
9 projections of ERCOT generation capacity. These reports are critically important  
10 to Market Participants, and to the Texas economy, as they document the  
11 generation reserve margin and the outlook for the availability of new electric  
12 generation. During 2007, the System Planning staff also completed the analyses  
13 and recommendations for 17 transmission projects through the Regional Planning  
14 Group review process. Driven by the continuing growth of the ERCOT market,  
15 System Planning processed a record 127 generation interconnection requests and  
16 completed more than 100 interconnection screening studies. ERCOT's annual  
17 transmission planning report issued in December 2007 included \$3 billion in  
18 proposed projects for the next five years, expected to add 2,538 miles of  
19 transmission lines and autotransformer capacity.

20 The transmission report also analyzed costs to resolve zonal congestion (between  
21 zones) and intrazonal congestion. ERCOT has worked with Market Participants to  
22 develop short-range and long-range plans to minimize intrazonal congestion costs.  
23 Due to new transmission and other operational improvements, annual intrazonal  
24 congestion costs were reduced from \$405 million in 2003 to \$183 million in 2006  
25 and \$167 million in 2007.

26 Moving to the Nodal market design will allow more efficient congestion  
27 management through improved dispatch efficiencies at the resource level, rather  
28 than by portfolio. The Nodal market is expected to achieve lower congestion costs  
29 by allowing more direct assignment of local congestion. The System Planning  
30 division will be responsible for CRR market administration and development,  
31 adding a significant new task to System Planning's portfolio in future years.

1   **Q.   HOW DO YOU EXPECT THE RESPONSIBILITIES OF THE SYSTEM**  
2   **PLANNING DIVISION TO CHANGE WITH THE OPENING OF THE**  
3   **NODAL MARKET IN THE ERCOT REGION?**

4   A.   The transition to the Nodal market directly affects the System Planning division's  
5       workload primarily in two areas. First, System Planning staff will manage the  
6       implementation of the CRR system. The Congestion Management department was  
7       created for this purpose and incorporated into System Planning in 2007. Some  
8       "Congestion Analysis" functions were performed by the System Operations  
9       division at the time of ERCOT's last SAF case, in 2006. With the addition of the  
10      CRR function in the Nodal market, the two-person Congestion Analysis team was  
11      expanded to include most of the additional resources required to operate CRR  
12      auctions. The department's major business processes will include the  
13      development of CRR Network Models that are used as the foundation for  
14      allocating and auctioning CRRs, the administration of the CRR auction system,  
15      and the creation of congestion models using the new Network Model  
16      Management System ("NMMS").  
17      Second, the Planning Services department's work will increase due to the need to  
18      conduct more detailed model validation to support the new Nodal NMMS. The  
19      Nodal NMMS is much more sophisticated and robust than previous network  
20      models, and it will be widely used by Market Participants and ERCOT personnel.  
21      We expect scrutiny of the model by Market Participants to increase because key  
22      details within the modeling process affect Locational Marginal Prices ("LMPs")  
23      and other commercial outcomes. With specific market outcomes at stake,  
24      ERCOT's development and validation of the model must be all the more detailed  
25      and complete – both to get the right answer and to be prepared to defend it.

26  
27   **Q.   HAVE ANY OTHER CHANGES OCCURRED SINCE THE LAST TIME**  
28   **THAT ERCOT'S SYSTEM ADMINISTRATION FEE WAS SET THAT**  
29   **INCREASE THE WORKLOAD OF THE SYSTEM PLANNING**  
30   **DIVISION?**

1     A.     Yes. As the competitive electric market has developed and the demand for power  
2           in Texas has grown, the work of System Planning staff has also increased. Major  
3           changes contributing to significant increases in staffing and outside consulting  
4           services in the rest of System Planning – including the System Assessment,  
5           Regional Planning and Planning Services departments – relate primarily to: (a)  
6           the increase in the number of generation additions and retirements; (b) legislative  
7           changes promoting the integration of new renewable energy and long-term system  
8           assessments in ERCOT; and (c) the implementation of mandatory NERC planning  
9           standards. Such increases are associated with the additional preparation of near-  
10          term and long-term planning assessments and studies, the validation of data and  
11          models, and the preparation of reports on the study findings. These tasks include,  
12          but are not limited to, the following:

- 13          (1)     Senate Bill 20 requirement for a biennial ERCOT study (and report) on the  
14                  need for increased transmission and generation capacity;
- 15          (2)     New nuclear, wind, coal and other long-term resource integration studies;
- 16          (3)     Requests for planning studies by regulatory bodies and Market  
17                  Participants have increased and are expected to continue increasing;
- 18          (4)     Requests for information from stakeholders, both informally and through  
19                  discovery in contested dockets, require significant staff time and  
20                  resources;
- 21          (5)     Long-term transmission and generation studies and other system  
22                  assessments require more scenarios, more complex analyses, and more  
23                  detailed documentation;
- 24          (6)     Resource adequacy, ancillary services, intermittent resources, and demand  
25                  response all present significant emerging issues that need to be evaluated  
26                  by System Planning staff;
- 27          (7)     New NERC assessment requirements and participation in NERC standard-  
28                  setting activities;
- 29          (8)     The need for additional analysis in the Five-Year Plan, which has been  
30                  urged by stakeholders; and

1 (9) Increased complexity of generation interconnection requests, and a need to  
2 provide additional oversight of the interconnection process.  
3

4 **Q. WHAT IMPACT DO THESE DEVELOPMENTS HAVE ON THE**  
5 **SYSTEM PLANNING DIVISION'S STAFFING NEEDS?**

6 A. The increased demand for studies and other information from the System  
7 Planning staff puts pressure on the staff's ability to complete the annual Five Year  
8 Plan and biennial Long-Term System Assessment studies. The introduction of the  
9 Nodal market creates an entirely new staffing need to effectively develop and  
10 manage the CRR market. Overall, the new demands on System Planning require  
11 additional staffing in five of the six departments in the division. The 2009 budget  
12 approved by the ERCOT Board of Directors authorized an additional seven (7)  
13 full-time equivalent ("FTE") staff for System Planning.  
14

15 **Q. ARE THERE MARKET DEVELOPMENTS OR OTHER FACTORS THAT**  
16 **DECREASE THE SYSTEM PLANNING DIVISION'S STAFFING NEEDS?**

17 A. No. The new demands on the System Planning division I have described have not  
18 been offset by decreases in the need for the services it currently provides. Even in  
19 areas where we expect our work to diminish, other tasks are lined up already to  
20 replace them. For example, the number of generation interconnection requests  
21 that System Planning staff must analyze grew from twenty-five (25) in the year  
22 2004 to one hundred and six (106) in 2007. As the number of interconnection  
23 requests increased, the division's responsibilities associated with them did not  
24 change. While we estimate the raw number of generation interconnection  
25 requests will not continue to increase at the historic pace, the complexity of the  
26 requests continues to increase, thus adding to the time it takes to thoroughly  
27 analyze each request ERCOT receives. For the purpose of establishing the  
28 headcount required to support generation interconnection requests starting in  
29 2009, we assume 100 studies per year will need to be completed.

1                   **III.     SYSTEMS PLANNING FUNCTIONS AND HEADCOUNTS**

2

3       **Q.     HOW DID THE SYSTEMS PLANNING DIVISION DEVELOP ITS**

4       **PROPOSED HEADCOUNT FOR 2009?**

5       A.     As other witnesses describe in more detail, the entire ERCOT organization

6             collectively performed an internal review of all functions and positions as part of

7             the development of the 2009 budget. The “deep dive” process called on every

8             department within each division to justify the need for all staff positions. This

9             process called on all ERCOT managers to demonstrate that their staffing levels:

10            (a) reflect all possible efficiencies going forward rather than simply repeating

11            what was done in the past; and (b) are aligned with the new activities ERCOT is

12            undertaking as part of the transition to the Nodal market.

13           The System Planning division’s budget is driven primarily by the costs of labor

14           and benefits paid to our employees and, when necessary, outside contractors. The

15           System Planning division conducted a department-by-department functional task

16           analysis, which provided the basis for the headcount requests included in the

17           Board-approved 2009 budget. Each department started its analysis from a zero

18           headcount and documented its requested headcount based on the tasks that are

19           within its designated responsibilities. Each department’s task analysis was

20           analyzed by division management. In some cases, the FTE headcount developed

21           in the task analysis became the basis for the 2009 budget request. In other cases,

22           the 2009 request was below that determined by the task analysis because

23           management believed efficiencies were possible that were not taken into account

24           in the task analysis. Division management worked with departmental staff as well

25           as ERCOT’s Finance organization to develop specific line items in the System

26           Planning budget request.

27

28       **Q.     IS THERE DOCUMENTATION TO SUPPORT EACH OF THE SYSTEM**

29       **PLANNING DIVISION’S DEPARTMENTAL DEEP DIVE ANALYSES?**

30       A.     Yes. The deep dive analyses for the System Planning division are attached to my

31             testimony as Exhibit BB-1.

1   **Q.   PLEASE IDENTIFY THE DEPARTMENTS WITHIN THE SYSTEM**  
2   **PLANNING DIVISION.**

3   A.   The System Planning division includes six departments:  
4       (1)   Planning Administration  
5       (2)   Congestion Analysis & Revenue Rights  
6       (3)   Regulatory Support and Reporting  
7       (4)   Planning Services  
8       (5)   Regional Planning  
9       (6)   System Assessment

10   Exhibit BB-1 includes an organizational chart for the System Planning division.

11

12   **Q.   IS THE PLANNING ADMINISTRATION DEPARTMENT RESPONSIBLE**  
13   **FOR OVERALL MANAGEMENT OF THE SYSTEM PLANNING**  
14   **DIVISION?**

15   A.   Yes. The Administration department includes four (4) FTEs. It is responsible for  
16   the overall management and administrative support of the division, and includes  
17   myself, my assistant, one department Director (Dan Woodfin) and his assistant.  
18   In addition to supporting Dan and me, the two assistants support all of the System  
19   Planning employees.

20

21   **Q.   HOW DID THE ADMINISTRATION DEPARTMENT ESTABLISH ITS**  
22   **HEADCOUNT?**

23   A.   The authorized headcount for the administration department remains unchanged  
24   from its 2008 level of four (4) FTEs. The tasks before the department are not  
25   appreciably different in 2009, although we expect an increase in working hours in  
26   the months just before and after Nodal Go-Live. Those demands should be  
27   temporary and will be met at current staffing levels.

28

29   **Q.   DO THE DEPARTMENTS WITHIN THE DIVISION SHARE ANY**  
30   **COMMON TASKS?**

1 A. Yes. Personnel in all departments are called upon to provide expertise for certain  
2 activities that cross departmental lines. These activities are not normally part of  
3 the day-to-day functions of department staff, but they can sometimes require  
4 substantial commitments of time. Such activities include:

- 5 (1) Staff participation in alternative dispute resolution proceedings brought by  
6 Market Participants;  
7 (2) Provide support on an *ad hoc* basis, including research and oral or written  
8 reports, to the Commission, the Legislature, Market Participants, or other  
9 ERCOT staff;  
10 (3) Provide necessary input to management activities such as SAS 70  
11 reporting and audit requests.

12 In each department's "deep dive" task analysis, department management took  
13 these internal management activities into account in developing headcount  
14 requests.  
15

16 **Q. WHAT STEPS WILL THE SYSTEM PLANNING DIVISION TAKE TO**  
17 **MAXIMIZE LABOR PRODUCTIVITY IN 2009?**

18 A. All managers in each department must ensure the full and effective use of all  
19 employees. If work anticipated does not materialize, management will reevaluate  
20 the need to replace personnel as a result of natural turnover. If a particular  
21 employee is not fully utilized, management will assign additional work to the  
22 employee, reassign the employee, or terminate the employee if there is not enough  
23 work for him or her. The departments reviewing generation interconnection  
24 proposals have already implemented efficiencies in the project review process that  
25 should minimize the need for new resources. Such efforts to streamline  
26 procedures are ongoing, and management hopes they will continue to yield  
27 additional efficiency gains. As the division receives requests for data or studies,  
28 we will evaluate the impact of each request on existing workload, and determine  
29 the most efficient way to staff the necessary efforts. Managers will maximize use  
30 of staff by regularly reviewing the priority and timing of planning studies, and

determining when it is necessary to outsource all or part of the work necessary to complete particular studies.

**Q. WHAT ARE THE SPECIFIC HEADCOUNT REQUESTS FOR EACH DEPARTMENT WITHIN THE SYSTEM PLANNING DIVISION?**

A. The following chart, which was developed as part of the division's deep dive materials, compares the departmental FTE numbers between those authorized in 2008 and those in the 2009 budget approved by the ERCOT Board of Directors:

**Figure 1: System Planning  
Summary of Staffing**

Department	2008 Authorized	2009 Requested
450 - Congestion Analysis & Revenue Rights	7	8
460 - Regulatory Support and Reporting	4	5
470 - Planning Administration	4	4
471 - Planning Services	6	8
472 - Regional Planning	10	12
473 - System Assessment	10	11
<b>Total</b>	41	48

As shown in Figure 1, the overall authorized headcount for System Planning increases between 2008 and 2009 from forty-one (41) to forty-eight (48) FTEs.

**Q. DIRECTING YOUR ATTENTION TO THE HEADCOUNTS FOR THE DEPARTMENTS WITHIN SYSTEM PLANNING, PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT FOR THE CONGESTION ANALYSIS & REVENUE RIGHTS DEPARTMENT.**

A. The Congestion Analysis & Revenue Rights department is responsible for analyzing congestion costs, administration and operation of the CRR market, and



1 performing the Competitive Constraints Test (“CCT”) on an annual and monthly  
2 basis. These tasks will expand substantially in the Nodal market due to the  
3 detailed nature of congestion analysis possible using the new Nodal systems.  
4 Beginning in 2006, the department took over congestion analysis functions that  
5 were previously performed in the System Operations division. The staff increased  
6 from two (2) to seven (7) FTEs in order to prepare for managing the CRR  
7 function as part of the Nodal Program. The team brought on during the Nodal  
8 program to develop, test and implement the CRR market will roll off the project  
9 in mid-2008. Some of the personnel who developed CRR will become part of the  
10 staff that manages the CRR function once the Nodal market is in operation. The  
11 task analysis conducted by the department for 2009 showed that, post-Go Live,  
12 the department requires one (1) additional FTE to perform the annual and monthly  
13 CCTs. The Board-approved headcount thus adds one additional FTE for 2009,  
14 bringing the department total to eight (8) FTEs.

15  
16 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
17 **FOR THE REGULATORY SUPPORT AND REPORTING**  
18 **DEPARTMENT.**

19 A. The Regulatory Support and Reporting department has a Board-approved 2009  
20 headcount of five (5) FTEs, an increase of one (1) FTE over 2008. The  
21 Regulatory Support and Reporting department’s duties include management of  
22 the Texas REC and the Emissions Labeling Program, preparation of reports for  
23 regulatory bodies (*e.g.*, NERC Seasonal Assessments, Demand and Energy  
24 Reports, PUCT Annual Constraints and Needs Report), and maintenance of  
25 databases for generation interconnection and load information. The general  
26 responsibilities of the department will not change in 2009, but the increasing  
27 demands placed on its staff will require additional resources.

28  
29 **Q. WHAT IS THE NATURE OF THE ADDITIONAL DEMANDS PLACED**  
30 **ON THE REGULATORY SUPPORT AND REPORTING DEPARTMENT?**

1 A. The largest increased effort is associated with NERC activities resulting from the  
2 federal Energy Policy Act. Regulatory Support and Reporting department staff  
3 must ensure that ERCOT System Planning complies with NERC standards. This  
4 ongoing analysis requires careful review of all ERCOT Protocols and PRRs, as  
5 well as detailed knowledge of evolving NERC standards. In addition, ERCOT  
6 believes it is important to the Texas market to be actively involved in NERC  
7 standards development. If ERCOT and Market Participants are not proactive,  
8 Texas may be subject to requirements that are inconsistent with Commission rules  
9 and ERCOT Protocols or we may miss opportunities to influence planning  
10 standards that could lead to efficient investment in reliable transmission  
11 infrastructure expansion.  
12

13 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
14 **FOR THE PLANNING SERVICES DEPARTMENT.**

15 A. The Planning Services department includes eight (8) FTEs in the 2009 budget  
16 approved by the ERCOT Board of Directors, an increase of two (2) FTEs over the  
17 2008 level. The responsibilities the Planning Services department has in 2008  
18 remain in its portfolio for 2009, including the ongoing development and  
19 validation of numerous ERCOT transmission and power flow models and  
20 databases. The department's duties will expand in 2009, however, because the  
21 Nodal NMMS model requires more detailed and complex model validation  
22 efforts. As noted above, ERCOT expects that the NMMS will be scrutinized even  
23 more carefully than in the past because of the critical impact that the models will  
24 have on LMPs and other commercial outcomes. This incremental increase in the  
25 amount of model development and validation requires the addition of two (2)  
26 FTEs the Planning Services department requested for 2009.  
27

28 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
29 **FOR THE REGIONAL PLANNING DEPARTMENT.**

30 A. The Regional Planning department headcount approved by the ERCOT Board for  
31 2009 includes twelve (12) FTEs, an increase of two (2) FTEs over 2008. Like the

1 Planning Services department, the Regional Planning department must continue to  
2 perform the duties that have historically been part of its activities. The  
3 department's 2009 task analysis, however, included the following duties: (a)  
4 address new NERC assessment requirements; (b) include additional analysis in  
5 the annual Five-Year Plan document; and (c) provide more oversight over the  
6 generation interconnection approval process as it raises more novel and complex  
7 issues in the ERCOT region. The department staff estimated that these new tasks  
8 will require just fewer than 13 FTEs, but expects efficiency gains in the project  
9 review process to allow the department to manage its work with twelve (12) FTEs  
10 in 2009.

11  
12 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE 2009 HEADCOUNT**  
13 **FOR THE SYSTEM ASSESSMENT DEPARTMENT.**

14 A. The 2009 Budget approved by the ERCOT Board of Directors includes eleven  
15 (11) FTEs for the System Assessment department, an increase of one (1) FTE  
16 over the 2008 budget. The workload increase in the Systems Assessment  
17 department is twofold. First, various regulatory, policy-making, and stakeholder  
18 groups have requested more reports and studies than the System Assessment  
19 group has ever been asked to prepare. The increase in demand reflects policy  
20 makers' need to address the type of longer-term, strategic issues affecting the  
21 electric market that the System Assessment department analyzes on a daily basis.  
22 The department's deliverables include the biennial study and report on the need  
23 for generation and transmission capacity in Texas mandated by SB 20, long-term  
24 resource integration studies, as well as the annual long-term econometric load  
25 forecast. The System Assessment department was given the task of completing  
26 the CREZ study requested by the Commission (part of which has been completed  
27 using contractor support as well as ERCOT staff), and expects that in the coming  
28 years there will be additional CREZ staging studies, additional wind optimization  
29 reviews as well as similar demands for studies regarding the long-term impacts of  
30 non-wind resource portfolios in the Texas market.

1                   **IV.     2009 SYSTEM PLANNING DIVISION BUDGET**

2

3     **Q.     WHAT IS THE TOTAL 2009 BUDGET FOR THE SYSTEM PLANNING**

4           **DIVISION APPROVED BY THE ERCOT BOARD OF DIRECTORS?**

5     A.     The total 2009 Board-approved budget is \$7,387,799. This compares to a total

6           2008 budget of \$5,682,323.

7

8     **Q.     WHAT IS THE KEY FACTOR DRIVING THE INCREASE IN THE**

9           **OVERALL BUDGET FOR SYSTEM PLANNING?**

10    A.     Labor and benefits, which is driven by headcount, is by far the largest category in

11          the division's budget. The budget numbers for labor and benefits increase in 2009

12          over 2008 levels both because of a higher Board-approved headcount, and

13          because in 2009 Nodal operations are budgeted as part of ERCOT's base

14          operations rather than as attributable to the budget for the Texas Nodal Market

15          Implementation Program ("Nodal Program").

16

17   **Q.     PLEASE EXPLAIN THE IMPACT OF THIS CHANGE ON THE SYSTEM**

18          **PLANNING BUDGET.**

19    A.     In 2007 and 2008, the Systems Planning division increased its expenditures on

20          labor and benefits to meet the demands of the development of the Nodal market.

21          ERCOT hired certain employees to assist in Nodal development and

22          implementation who could then become part of the ERCOT team that will operate

23          the Nodal market after Go-Live. During the development of the Nodal market,

24          employees recorded their time to either the Nodal Program projects or ERCOT's

25          "base operations" (*i.e.*, tasks not associated with the Nodal Program). This was

26          necessitated by the need to track Nodal Program expenses separately, in part

27          because we funded from a different source than ERCOT base operations. For

28          purposes of the overall ERCOT base operations budget, when ERCOT employees

29          recorded time to one of the Nodal projects, ERCOT effectively credited base

30          operations to lower the base labor costs by the amount charged to Nodal.

1 For example, in 2008, the System Planning division's expenditures on labor and  
2 benefits are budgeted at \$5,123,413. Of that amount, \$456,948 is expected to be  
3 attributable to Nodal Program projects. For budgeting purposes, the \$456,948  
4 was credited against the total labor and benefits expenditures, and was slated for  
5 recovery via the Nodal Surcharge. The remaining labor and benefits amount was  
6 attributed to the division's base operations, and recovered from the System  
7 Administration Fee. In 2009, all post-Go-Live labor and benefits costs will be  
8 attributed to ERCOT's base operations. Therefore, the "credit" to the division's  
9 labor and benefits budget no longer exists. In 2009, the total approved labor and  
10 benefits expenditures are \$6,155,359. The 2009 expenditure amount flows to the  
11 division's bottom line without a deduction attributable to Nodal projects.  
12

13 **Q. HOW DID YOU DETERMINE COMPENSATION LEVELS INCLUDED**  
14 **IN THE 2009 ERCOT BUDGET FOR LABOR COSTS IN THE SYSTEM**  
15 **PLANNING DIVISION?**

16 A. Division management used a methodology for determining compensation levels  
17 that is consistent across all of ERCOT's divisions. For existing employees,  
18 existing salaries were used. For vacant or new positions, salaries were estimated  
19 by the Finance department based on the mid-point salary for the job grade. If the  
20 position is new and has not been assigned a job grade, it is slotted based on  
21 similar type positions and then reviewed in detail after a full position analysis is  
22 performed by Human Resources upon posting the position. Human Resources  
23 provides support to Finance to calculate the proper loading for benefits to be  
24 included in the ERCOT Budget. The benefit load is determined by prior year  
25 expenses and actuarial assumption of future expenses.  
26

27 **Q. COULD THE SYSTEM PLANNING DIVISION REDUCE THE NUMBER**  
28 **OF FTES BY HIRING CONSULTANTS?**

29 A. Yes, we could reduce the number of new FTEs planned for 2009 by using  
30 consulting resources. However, doing so would cost more for those efforts that  
31 are considered ongoing. Conversely, hiring all FTEs is also an alternative,

1 although also not cost-effective in all situations. In most cases, System Planning  
2 uses outside consultants only to supplement the efforts of ERCOT employees,  
3 based on the demands of the division's workload and the specific expertise  
4 needed. ERCOT considers the combination of FTEs and targeted use of  
5 consultants a more cost effective, balanced approach versus using all consultants  
6 or hiring all FTEs.

7  
8 **Q. IN YOUR OPINION, IS THE BUDGETED AMOUNT FOR LABOR AND**  
9 **BENEFITS A REASONABLE AMOUNT FOR ERCOT TO SPEND TO**  
10 **ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

11 A. Yes, the amount included in the 2009 budget for labor is reasonable to accomplish  
12 our current responsibilities and anticipated future tasks.

13  
14 **Q. PLEASES DESCRIBE THE EXPECTED OUTSIDE SERVICES NEEDS**  
15 **FOR THE SYSTEM PLANNING DIVISION FOR 2009.**

16 A. System Planning has a budget of \$1,096,000 for outside services for 2009. The  
17 primary tasks for which System Planning anticipates relying on assistance from  
18 outside contractors include:

19 (1) Consulting support to assist with live CRR market activity, the CRR  
20 ITEST, and market trials involving staff from the vendor that designed the  
21 CRR software. As ERCOT staff learn to use the new CRR software, it  
22 will be important for them to have ready access to the team that designed  
23 and is most familiar with the software. This technical assistance promises  
24 to make the early months of CRR implementation much smoother for  
25 ERCOT and Market Participants than might otherwise be the case.

26 (2) Analysis of the impact of energy efficiency on ERCOT's long-term load  
27 forecast. This study will be conducted to comply with recent state  
28 legislation mandating an increase in energy-efficiency initiatives to reduce  
29 peak load growth in the ERCOT region. The consultant selected brings an  
30 independent viewpoint, the necessary technical expertise, and software

1 that is not cost-effective for ERCOT to buy and maintain itself. This is  
2 also likely to be a one-time effort.

3 (3) Continuation of the Wind Generation Modeling Project, which is  
4 necessary to develop models that simulate the response of specific wind  
5 units to system disturbances. Such models are a critical part of system  
6 analysis to assess the likelihood of voltage collapse and transient stability.  
7 ERCOT's failure to obtain the expertise needed to complete the simulation  
8 models could lead to excessive market costs (a result of overly  
9 conservative transfer limits) or unacceptable levels of risk of transient  
10 instability resulting from system disturbances. Moreover, the models have  
11 not been validated through field tests, which are required in order to  
12 ensure their accuracy. Use of an outside consultant to conduct the  
13 validation studies is the most cost-effective way to get the validation  
14 process completed.

15 (4) Completion of a Loss of Load Expectation ("LOLE") study. The LOLE  
16 study examines system characteristics to determine the relationship  
17 between system reserve margin and the risk of loss of load events.  
18 ERCOT will not be able to maintain the required level of reliability of the  
19 transmission system unless the LOLE study is completed. Use of a  
20 consultant gives ERCOT the necessary access to expertise that it is not  
21 cost-effective for ERCOT to maintain on an ongoing basis.

22 (5) The Texas REC and Energy Labeling programs have been subject to  
23 changes made during each legislative session since the programs began in  
24 2002. ERCOT anticipates that additional changes may be made in 2009  
25 that could require rapid implementation of major changes by ERCOT's  
26 information technology ("IT") staff. Since IT staff is generally working at  
27 capacity already, division management considers it prudent to budget for  
28 possible IT assistance if such changes must be implemented quickly per  
29 legislative or Commission requirements.

30 (6) Use of Electric Power Research Institute ("EPRI") general dynamic model  
31 parameters identification and validation tools and techniques to perform

generator parameter estimation on a regular basis. Use of the EPRI resources will enable ERCOT to satisfy industry reliability standards.

(7) Analysis of methods to develop load forecasts for stochastic planning studies, which is necessary to enable the System Assessment department to meet the statutory obligation to complete the Long-Term System Assessment and the NERC requirement to complete similar long-term analyses. A key input to the analysis of future conditions is the type and future location of generating units. Stochastic planning studies provide a way of creating trustworthy scenarios even where there is significant indeterminacy at the study's starting point (in this case, the currently uncertain type and location of generating units). System Assessment staff will not be able to provide credible analysis of long-term conditions, as required by statute and by NERC rules, without outside assistance with this study.

(8) Assistance with econometric data for load forecast development by the System Assessment staff. Econometric forecasts are a key input to the long-term load and demand forecasts required by PUC rule and NERC requirements and frequently requested by Market Participants and legislative committees.

(9) Membership in the Utility Wind Integration Group ("UWIG"), which provides ERCOT staff access to technical expertise and a forum for discussion of issues related to the optimal methods for integrating wind capacity into the ERCOT transmission system.

**Q. WHY DO YOU EXPECT TO USE OUTSIDE SERVICES TO PERFORM THESE TASKS RATHER THAN USING ERCOT EMPLOYEES?**

A. For the 2009 ERCOT Budget, System Planning has limited outside service requests to critical functions better performed by outside consultants and contractors. System Planning regularly requires the assistance of some consultants with very specific expertise that ERCOT could not cost-effectively maintain in-house (*e.g.*, econometricians), but only involves consultants when its



1 own staff does not have the skill set necessary to perform the required analysis.  
2 In addition, there are certain studies System Planning is charged with completing  
3 where the stakeholders seeking the information want it prepared by independent  
4 sources without direct ties to ERCOT.  
5

6 **Q. HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
7 **OUTSIDE SERVICES FOR THE SYSTEM PLANNING DIVISION?**

8 A. Generally, management determined that number by either: (1) estimating the  
9 number of hours of outside services required for a given project or task or, (2) if  
10 contemplated as fixed fee services, estimating costs based on prior experience. If  
11 calculated based on a time and materials basis, we multiplied the hours by an  
12 average hourly rate based on ERCOT's past experience with paying personnel  
13 with the required skill sets and background to perform the task.  
14

15 **Q. IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
16 **OUTSIDE SERVICES TO ACCOMPLISH THE TASKS SCHEDULED**  
17 **FOR 2009?**

18 A. Yes, the amount included in the 2009 budget for outside services is reasonable to  
19 accomplish the division's tasks for 2009.  
20

21 **Q. DESCRIBE THE NEED FOR AND BENEFITS OF THE EMPLOYEE**  
22 **EXPENSES INCLUDED IN THE BUDGET FOR THE SYSTEM**  
23 **PLANNING DIVISION.**

24 A. The System Planning division incurs employee expenses largely in relation to  
25 attendance and representation at meetings for the development and discussion of  
26 industry standards to help influence changes and ensure proper understanding of  
27 the effect changes have on the ERCOT Region. Division management closely  
28 monitors employee expenses, and we are committed to doing so in the future.  
29

1 **Q. IN YOUR OPINION, IS THE BUDGET FOR THE SYSTEM PLANNING**  
2 **DIVISION REASONABLE AND SUFFICIENT TO ACCOMPLISH THE**  
3 **SCHEDULED TASKS FOR 2009?**

4 A. Yes.  
5

6 **V. PROPOSED MODIFICATION TO THE GENERATION**  
7 **INTERCONNECT SECURITY SCREENING STUDY FEE STRUCTURE**  
8

9 **Q. WHAT ARE THE “SECURITY SCREENING STUDIES” PERFORMED**  
10 **BY ERCOT?**

11 A. ERCOT has historically performed studies at the request of generation developers  
12 that analyze the impact of proposed generation interconnection to the ERCOT  
13 grid. ERCOT first published a procedure<sup>1</sup> for the development of generation  
14 interconnection studies in 1998. The generation interconnection process is  
15 required for new plants and large additions to capacity at existing generation  
16 facilities. Transmission interconnections for new generation or additional  
17 capacity at an existing plant that is less than or equal to 10 MW normally are not  
18 required to enter the generation interconnection process.  
19 ERCOT System Planning staff will, for a fee, perform a “Security Screening  
20 Study” (“SSS”) for the generation developer. The SSS provides generation  
21 developers an assessment of how a proposed generation unit will interconnect  
22 with, and impact, the transmission system in the ERCOT region. Generation  
23 developers can also have the SSS performed by their own staff or consultants with  
24 the relevant expertise.  
25

26 **Q. HOW IS ERCOT COMPENSATED FOR PERFORMING THE SSS**  
27 **STUDIES?**

28 A. The charge for SSS is listed in ERCOT’s Fee Schedule. The SSS fee began at a  
29 flat \$500.00, but has increased over the years. In 2004, ERCOT adopted a fee

---

<sup>1</sup> The procedure was referred to originally as “Generation Interconnection Procedure,” but was changed to “Generation Interconnection or Change Request Procedure” in 2004.

1 schedule based on size of the proposed unit. The SSS fees range from \$1,000 to  
2 \$5,000 in five steps, depending on the size of the proposed unit.

3  
4 **Q. HAS GENERATION INTERCONNECTION ACTIVITY INCREASED IN**  
5 **THE ERCOT REGION SINCE THE SSS FEE SCHEDULE WAS**  
6 **ADOPTED IN 2004?**

7 A. Yes, generation interconnection activity has increased dramatically. Table 1  
8 shows the increased activity since 2004.

9  
10 **Table 1: ERCOT Interconnection Activity**  
11

Year	Generation Projects	Capacity of Projects (in MW)
2004	19	5,887
2005	44	9,683
2006	99	50,418
2007	106	53,596
2008 (through March 21, 2008)	26	7,907

12  
13 Increased competition in the new ERCOT market and the development of new  
14 generation technologies has led more generation developers to request SSS  
15 studies from ERCOT. The number of SSS studies submitted in 2007 was an all-  
16 time high, and ERCOT expects the number of screening studies submitted in 2008  
17 and 2009 to remain at or above the 2007 level. We are aware that numerous  
18 transmission projects are planned to relieve constraints identified as part of the  
19 Competitive Renewable Energy Zone Transmission Optimization (“CTO”) Study,  
20 which was completed in April 2008. The System Planning staff expects these  
21 new projects will lead to requests for new screening studies.

22  
23 **Q. WHAT IMPACT HAS THE GROWTH IN SSS REQUESTS HAD ON**  
24 **SYSTEM PLANNING STAFFING?**

25 A. The ERCOT staff necessary to complete screening studies has increased from less  
26 than one (1) FTE in 2004 to 4.3 FTEs in 2007. The increased number of staff  
27 required to complete these studies led ERCOT to consider either modifying the

existing fee schedule or outsourcing the generation interconnection screening studies to reputable consultants able to provide the service. Table 2 shows the cost of ERCOT staff performing an SSS based on a typical generation study request.

**Table 2: ERCOT Costs of Completing Security Screening Studies**

(Small Interconnects assumed to be 1 to 149 MW,  
Large Interconnects 150 MW and greater.)

Per Interconnect	Hours		ERCOT Labor Cost	
	Sum		Sr. Engineer @\$45/hr	
Interconnect Size	>= 150 MW	< 150 MW	>= 150 MW	< 150 MW
Labor Total	112.05	87.55	\$7,206.19	\$5,739.87
Facilities Charge			784.35	612.85
IT Support Charge			350.16	273.59
Management Overhead (average \$75/hour)	28	22	\$2,793.00	\$2,194.50
Subtotal			\$11,133.70	\$8,820.81
Administrative Support			\$256.21	\$201.78
Grand Total			\$11,389.90	\$9,022.59

As depicted in Table 2, the SSS fee currently charged by ERCOT does not recover ERCOT's costs of completing the studies. The maximum allowable \$5,000 fee permitted under the existing fee schedule falls far short of achieving cost recovery on even the smallest SSS studies ERCOT conducts.

**Q. HAVE YOU REVIEWED HOW OTHER INDEPENDENT SYSTEM OPERATORS (“ISOs”) HANDLE SIMILAR GENERATION INTERCONNECTION STUDY REQUESTS?**

A. Yes. Other ISOs perform studies similar to ERCOT's Security Screening Studies, which are known as “Interconnection Feasibility Studies” (“IFS”). The other ISOs require a \$10,000 deposit for a Large Interconnect Request (greater than 20 MW) that is applied towards the cost to complete the feasibility study. The ISOs

1 with this fee structure include the California ISO, MISO, ISO New England, New  
2 York ISO, PJM, and SPP.

3 Similar to ERCOT, generation developers must deposit that same amount for each  
4 evaluated site or for each request for one site. Unlike in ERCOT, developers must  
5 also submit an additional \$10,000 deposit for each voltage level evaluated at one  
6 site. ERCOT routinely checks multiple voltage levels if more than one point of  
7 interconnection voltage level is available. Basing fees on the voltage level  
8 analyses requested gives the requesting developers an incentive to carefully  
9 consider the extent of their study requests.

10  
11 **Q. DOES ERCOT PROPOSE A CHANGE IN THE SSS FEE SCHEDULE?**

12 A. Yes. As shown in Table 2, the current fee schedule does not cover ERCOT's  
13 current costs to complete a Security Screening Study. ERCOT requests an  
14 increase in the fee to cover those costs and to ensure that generation developers  
15 are serious about each interconnection request before submitting the request to  
16 ERCOT for study.

17 ERCOT requests the following change to the SSS fee:

18 **Table 3: Proposed Security Screening Study Fee Schedule**

Interconnect MW Level	Fee	Comments
1 to 149 MW	\$10,000	One request, one site, one voltage level
150 MW and above	\$15,000	
Each additional voltage level	\$5,000	Test additional voltage level 1 MW and above

19  
20 Pursuant to the proposed schedule, interconnection requests less than 1 MW will  
21 be treated as 1 MW. As noted above, transmission interconnections for new  
22 general or additional capacity at an existing plant less than or equal to 10 MW  
23 normally are not required to enter the generation interconnection process. If  
24 generation developers in those circumstances choose to participate in the process,  
25 however, they will be subject to the fee schedule.

1 **Q. WHAT IS THE RATIONALE FOR THE FEE AMOUNTS REQUESTED?**

2  
3 A. The lower fee for 1 to 149 MW is based on ERCOT's experience that studies of  
4 smaller interconnect requests are simpler and typically run into fewer problems.  
5 Smaller studies also do not require analysis of multiple voltage levels. For larger  
6 interconnect requests, the fee is higher due to the increased study time related to  
7 solving more transmission problems. The proposed fees are consistent with fees  
8 charged by other ISOs across the country for a one voltage level study, but are  
9 slightly lower than other ISOs charge for multiple voltage levels.

10 In addition to the SSS fee, ERCOT collects a "modeling fee" of \$15/MW from  
11 each generation developer when and if the developer chooses to advance its  
12 project to the next phase after the SSS. In this context, "modeling" refers to the  
13 identification and evaluation of a generator's electrical and mechanical equipment  
14 and their impact on the interconnected transmission grid. The next phase study is  
15 known as a "Full Interconnect Study" ("FIS"). ERCOT is not requesting a change  
16 to the modeling fee at this time. In 2009, the modeling fee will be used for  
17 projects related to the validation of generation dynamic models, updates to the  
18 models for ERCOT Loss of Load Expectation studies, and the review of  
19 generators' Power System Stabilizer settings.  
20

21 **Q. HOW MUCH REVENUE DOES ERCOT EXPECT TO COLLECT IN 2009**  
22 **IF THE COMMISSION APPROVES THE REVISED SSS FEE?**

23 A. Based on a forecast of 100 interconnection requests for 2009, with 10,000 MW of  
24 generation moving into the FIS phase, the total revenue from the requested fees is  
25 expected to be between \$1.0 and \$1.5 million from SSS fees and \$150,000 from  
26 the modeling fees.

1                               **VI.     FORECAST OF 2009 ENERGY CONSUMPTION**  
2   **IN THE ERCOT REGION**  
3

4   **Q.     DID YOU PARTICIPATE IN THE DEVELOPMENT OF THE 2009**  
5   **ENERGY CONSUMPTION FORECAST THAT IS USED AS PART OF**  
6   **ERCOT’S SYSTEM ADMINISTRATION FEE REQUEST?**

7   A.     Yes. System Planning staff prepared the Long-Term Hourly Peak Demand and  
8           Energy Forecast, which was issued on May 8, 2008 (the “2008 Forecast”). The  
9           2008 Forecast is used by ERCOT’s Corporate Administration division to estimate  
10          the number of Megawatt Hours (“MWh”) upon which ERCOT can expect to  
11          collect its System Administration Fee (which is based on MWh usage) in any  
12          given year. The MWh forecast for 2009 is 319,355,145 MWh. The 2008  
13          Forecast is based on the latest historical hourly demands for the region, adjusted  
14          for economic and weather variables (primarily temperatures, heating and cooling  
15          degree-days).

16  
17   **Q.     HOW DOES ERCOT PREPARE ITS LONG-TERM ENERGY**  
18   **FORECAST?**

19   A.     The 2008 Long-Term Demand and Energy forecast was produced with a set of  
20           econometric models that use weather, economic and demographic data and  
21           calendar variables to capture and project the long-term trends in the historical data  
22           for the past five years.

23           A representative hourly load shape by weather zone is forecasted using an average  
24           weather profile of temperatures and Cooling Degree Hours and Heating Degree  
25           Hours obtained from historical data to project the load shape into the future. Other  
26           factors such as seasonal daily, weekly, monthly and yearly load variations and  
27           Holiday events, in addition to various interactions, such as weather and weekends  
28           and weekdays are also considered. This hourly Load Shape only describes the  
29           hourly load fluctuations within the year and in itself does not reflect the long-term  
30           trend. The long-term trend is provided by the energy forecast. The monthly

1 energy forecast models by weather zone use Cooling Degree Days (“CDD”) and  
2 Heating Degree Days (“HDD”), economic and demographic data, and indicator  
3 variables for special events to project the monthly energy for next eighteen years  
4 (2008-2025). The hourly loads from the forecasted Load Shape are scaled using  
5 the MWh forecasts to produce the final forecast. The aggregation of the scaled  
6 hourly loads by month provides the forecast MWh usage.

7 The data sources included in ERCOT’s modeling include economic and  
8 demographic data at the county level that are obtained on a monthly basis from  
9 Moody’s Economy.com. These data are used as input to the monthly energy  
10 models. Fourteen years of weather data are available from WeatherBank for the  
11 20 ERCOT weather stations. These weather stations are used to develop weighted  
12 hourly weather profiles for each of the eight weather zones. These data are used in  
13 the Load Shape models. Monthly CDD and HDD are used in the monthly energy  
14 models. Settlement load data are available on an hourly basis since July 31, 2001.  
15 Prior to 2001, ERCOT has Transmission and Distribution Service Provider hourly  
16 data going back to 1995. Weather zone load data have been collected only from  
17 July 31, 2001.

18  
19 **Q. DO YOU BELIEVE THE 2009 ENERGY CONSUMPTION FORECAST**  
20 **PROVIDES A REASONABLE BASIS FOR ERCOT’S FINANCIAL**  
21 **FORECASTS?**

22 A. Yes. The Long-Term forecast presents the best information available regarding  
23 anticipated electricity demand and energy consumption in the ERCOT region.  
24

25 **Q. DOES THIS CONCLUDE YOUR**  
26 **DIRECT TESTIMONY AT THIS TIME?**

27 A. Yes, it does.





# ERCOT Organizational Deep Dive

SYSTEM PLANNING

Bill Bojorquez

Vice President of System Planning

May 2008

- **Summary Findings**
- **Organization Overview**
- **Task Analysis**



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
450 – Congestion Management	7	7.6	7
<b>450 – Congestion Management</b>	<b>7</b>	<b>8.9</b>	<b>8</b>
460 – Regulatory Support and Reporting	4	6.1	5
470 – Planning Administration	4	4	4
471 – Planning Services	6	8.1	8
472 – Regional Planning	10	12.9	12
473 – System Assessment	10	11.5	11
<b>Total</b>	<b>41</b>	<b>51.5</b>	<b>48</b>

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
450 – Congestion Management	7	7.6	7
460 – Regulatory Support and Reporting	4	6.1	5
470 – Planning Administration	4	4	4
471 – Planning Services	8.1	8.1	8
472 – Regional Planning	10	12.9	12
473 – System Assessment	10	11.5	11
<b>Total</b>	<b>41</b>	<b>50.2</b>	<b>47</b>

**Updated**

# Factors that Drive System Planning Staffing Levels

- Implementation of Congestion Revenue Rights (CRR) in the Nodal market
- Implementation of the Network Model and Management System (NMMS) in the Nodal market
- Increased NERC standards and compliance work
  - Participation in standards development
  - Demonstration of compliance with mandatory system planning standards
- Increased number, complexity and oversight of generation interconnection studies
- Increased focus on longer-term planning and system-wide assessments
  - Senate Bill 20 requirement for a biennial ERCOT study (and report) of the need for increased transmission and generation capacity
  - New nuclear, clean coal and other long-term resource integration studies



# Organization Overview

## Planning Vision

***Maintain and expand independent and trusted advisory role on system planning, reliability assessment and transmission congestion matters to the members, market participants, the Board, the PUCT, and all other constituents.***



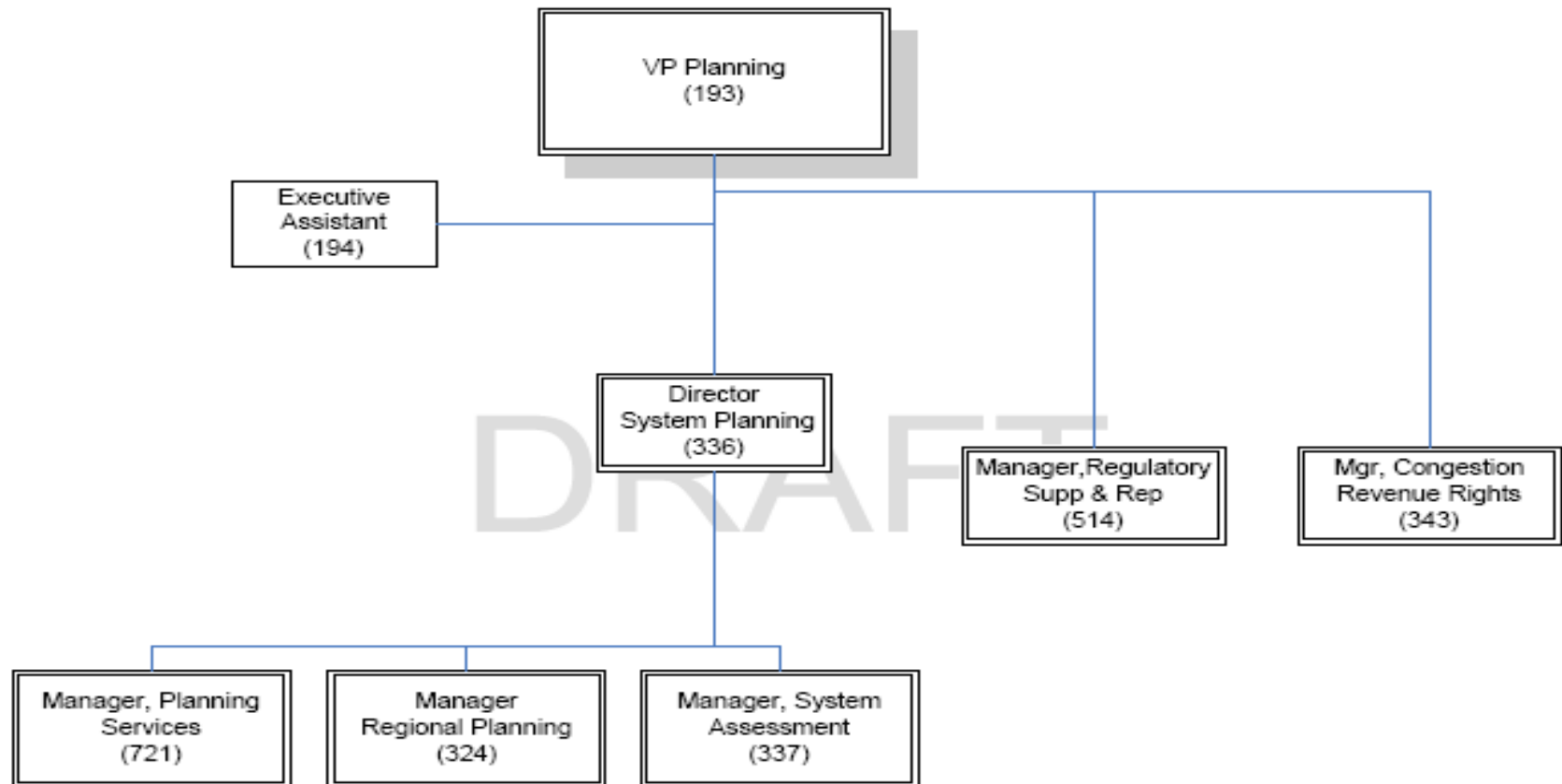
## Successes:

- Recognized as the Planning Authority leading all regional planning efforts
- Great reputation with PUCT and Legislature for quality studies, reports and opinions
- Well positioned to successfully complete the Nodal CRR Project
- Achieved significant reduction in Reliability Must Run (RMR) contracts and congestion costs for the market
- Completed successful audit of NERC standard compliance without any findings

## Challenges:

- Cumulative loss of experienced engineers with limited replacement success in tight job market
- Increased number of larger and more complex studies with higher level of scrutiny
- Increased responsibility for review of new NERC/FERC standards and assurance of ERCOT compliance

# Organizational Chart



# PLANNING – Core Functions

System Planning	Congestion Analysis and Revenue Rights	Regulatory Support and Reporting
<ol style="list-style-type: none"><li>1. Load Forecasting</li><li>2. Generation Interconnections</li><li>3. Transmission Planning Studies<ul style="list-style-type: none"><li>– Regional Projects</li><li>– 5-Year Plan</li><li>– Long Term Assessment</li><li>– Special Studies</li></ul></li><li>4. Resource Adequacy Analyses</li><li>5. Planning Database Support</li></ol>	<ol style="list-style-type: none"><li>1. Congestion Analyses</li><li>2. Network Model Development</li><li>3. CRR Market Administration and Validation</li><li>4. CRR Market Development</li><li>5. Annual and Monthly Competitive Constraints test</li></ol>	<ol style="list-style-type: none"><li>1. Renewable Energy Credit (REC) Program</li><li>2. Energy Labeling</li><li>3. Regulatory Reporting<ul style="list-style-type: none"><li>• REC Program</li><li>• NERC</li><li>• PUCT</li><li>• DOE and FERC</li></ul></li><li>4. Review Standards and Protocols</li></ol>

# PLANNING – Core Functions

System Planning	Congestion Analysis and Revenue Rights	Regulatory Support and Reporting
<ol style="list-style-type: none"><li>1. Load Forecasting</li><li>2. Generation Interconnections</li><li>3. Transmission Planning Studies<ul style="list-style-type: none"><li>– Regional Projects</li><li>– 5-Year Plan</li><li>– Long Term Assessment</li><li>– Special Studies</li></ul></li><li>4. Resource Adequacy Analyses</li><li>5. Planning Database Support</li></ol>	<ol style="list-style-type: none"><li>1. Congestion Analyses</li><li>2. Network Model Development</li><li>3. CRR Market Administration and Validation</li><li>4. CRR Market Development</li></ol> <p><b>Updated</b></p>	<ol style="list-style-type: none"><li>1. Renewable Energy Credit (REC) Program</li><li>2. Energy Labeling</li><li>3. Regulatory Reporting<ul style="list-style-type: none"><li>• REC Program</li><li>• NERC</li><li>• PUCT</li><li>• DOE and FERC</li></ul></li><li>4. Review Standards and Protocols</li></ol>

# SYSTEM PLANNING – Overview of Findings

- **Need to add to the number of approved positions in order to meet increased workload**
  - Increased focus on, and scope, of long-term assessment of system needs
  - Level of effort necessary to support compliance with mandatory NERC standards
    - Performing studies to meet the “letter” of the standards
    - Demonstrating compliance
    - Supporting standards development
  - Generation Interconnections have increased in number and complexity without a corresponding decrease in existing responsibilities

Year	No. of Generation Interconnection Requests	Income from Interconnection Requests
2004	25	\$146,134
2005	44	\$237,760
2006	94	\$701,389
2007 (est)	210	\$931,000

- **Increased workload had an adverse impact on resources available for 2007 annual studies (and their cost)**

## 2006 Studies (all in-house)

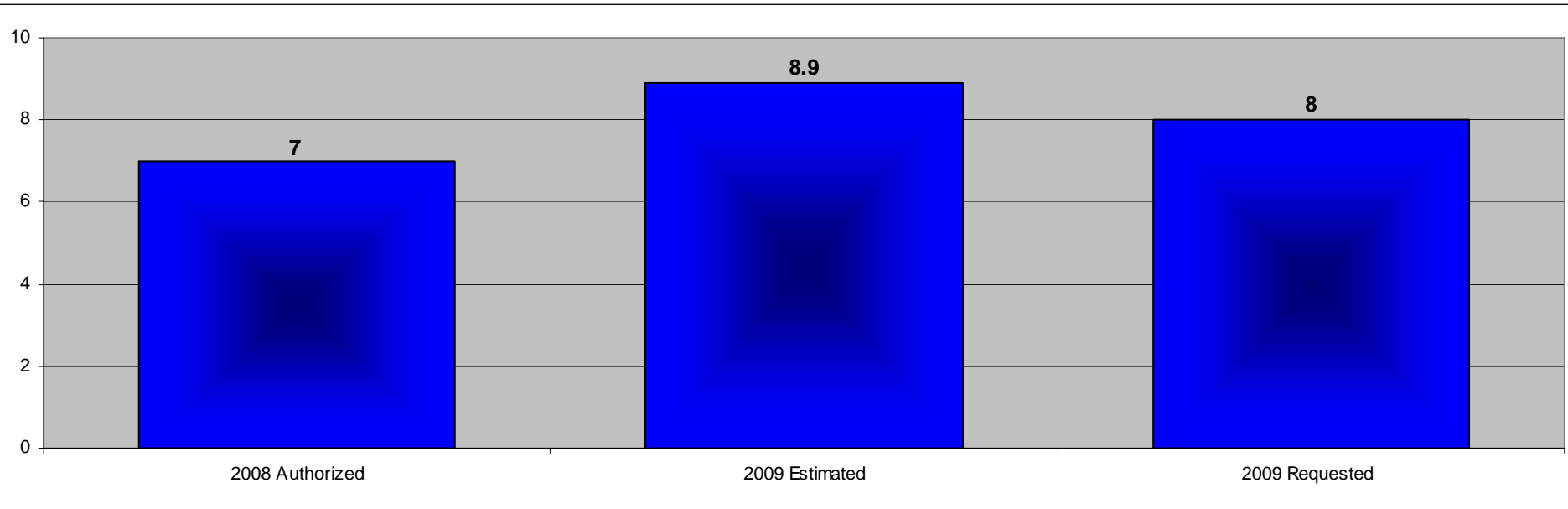
- Phase I Competitive Renewable Energy Zone (CREZ) Study
- 2006 5-year Plan
- 2006 Long Term System Assessment
- Entergy Integration Study
- Voltage & Transient Survey

## 2007 Studies

- Phase II CREZ Study (started & partially outsourced)
- 2007 5-year Plan (in-house)
- 2008 Long-Term System Assessment (not started)
- Ancillary Services Study (outsourced)
- Loads Acting as Resources Study (started)
- Voltage & Transient Survey



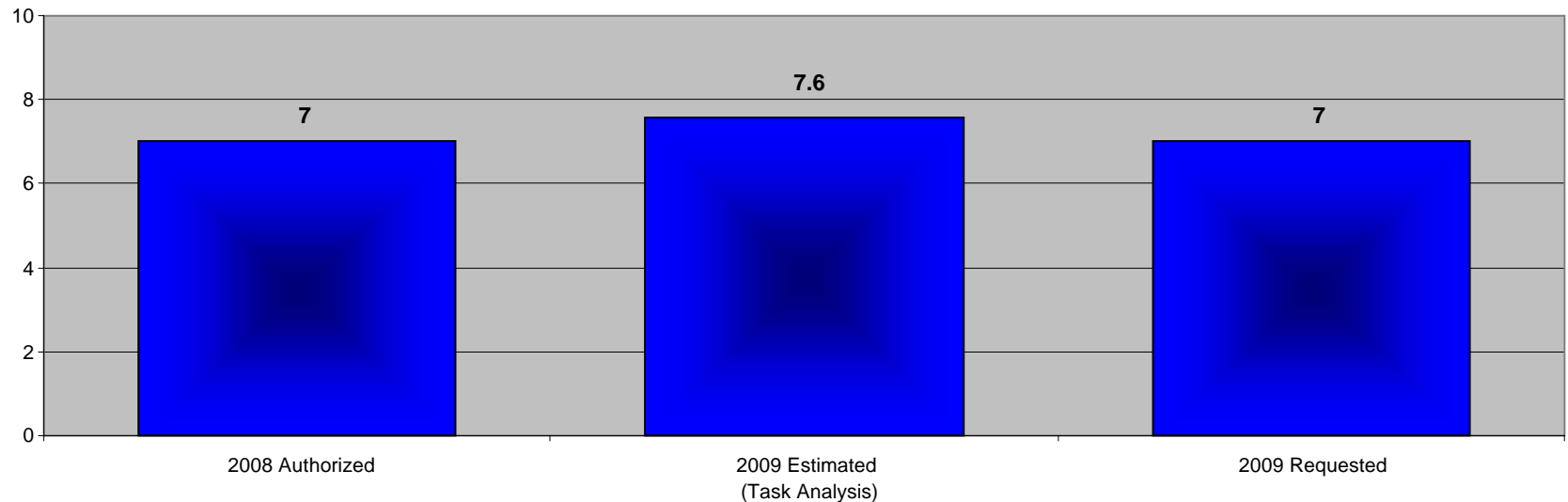
# Task Analysis



## Summary Points

1. Estimates are based on the current understanding of CRR Business processes. CRR Business processes will continue to be developed and refined through EDS (mid 2008)
2. CRR Project team (Stacy Barry & four contractors) rolls off mid 2008
3. 2009 estimate assumes SO-DPO resources (Project Manager & Business Analysts) to handle CRR system enhancement projects
4. 2009 estimate assumes performing the annual and monthly Competitive Constraints test

# 450 – Congestion Management Headcount Overview

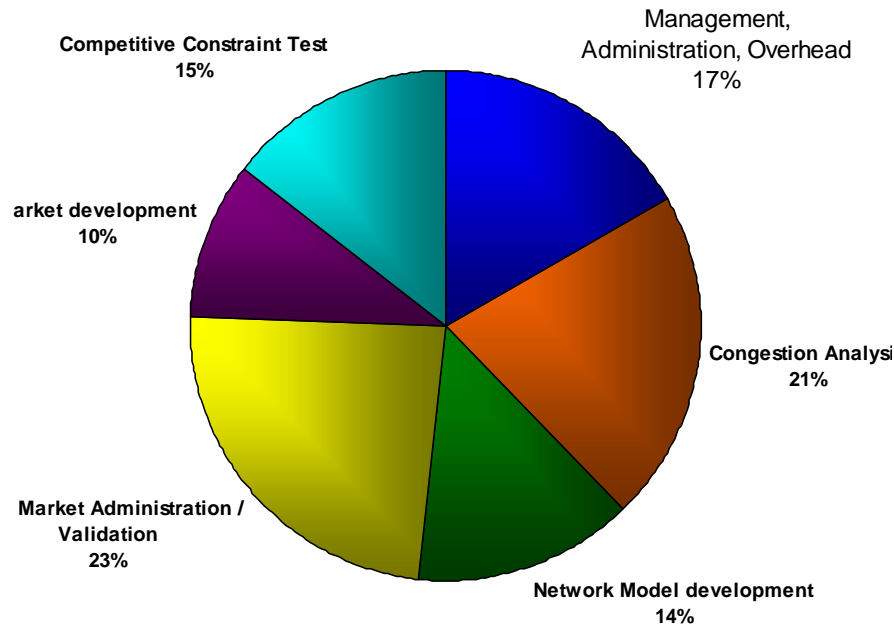


**Updated**

## Summary Points

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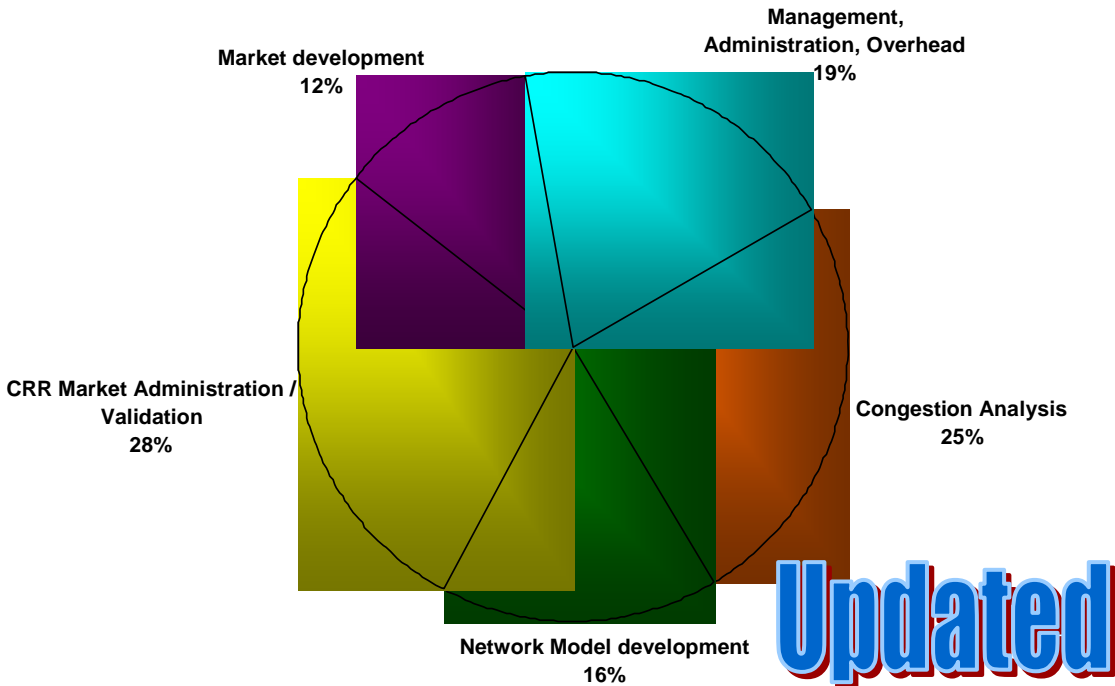




## Key Points

- ❑ Percentages reflect post nodal implementation
- ❑ Congestion analysis is expanded in nodal due to new market granularity
- ❑ **Updated to reflect CCT tasks**
- ❑ Staffing estimate represents “minimum” levels recommended based on task analysis

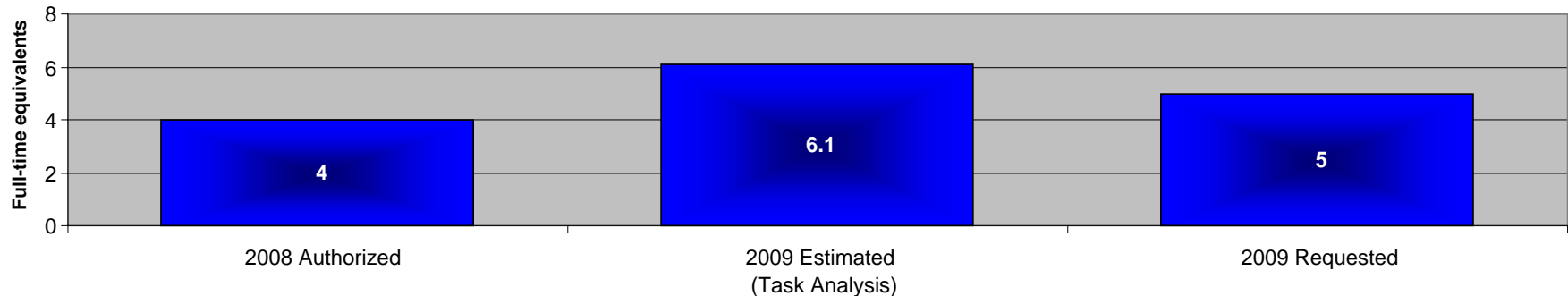
# 450 – Congestion Management Allocation by Function



## Key Points

- ❑ Percentages reflect post nodal implementation
- ❑ Congestion analysis is expanded in nodal due to new market granularity
- ❑ Staffing estimate represents “minimum” levels recommended based on task analysis

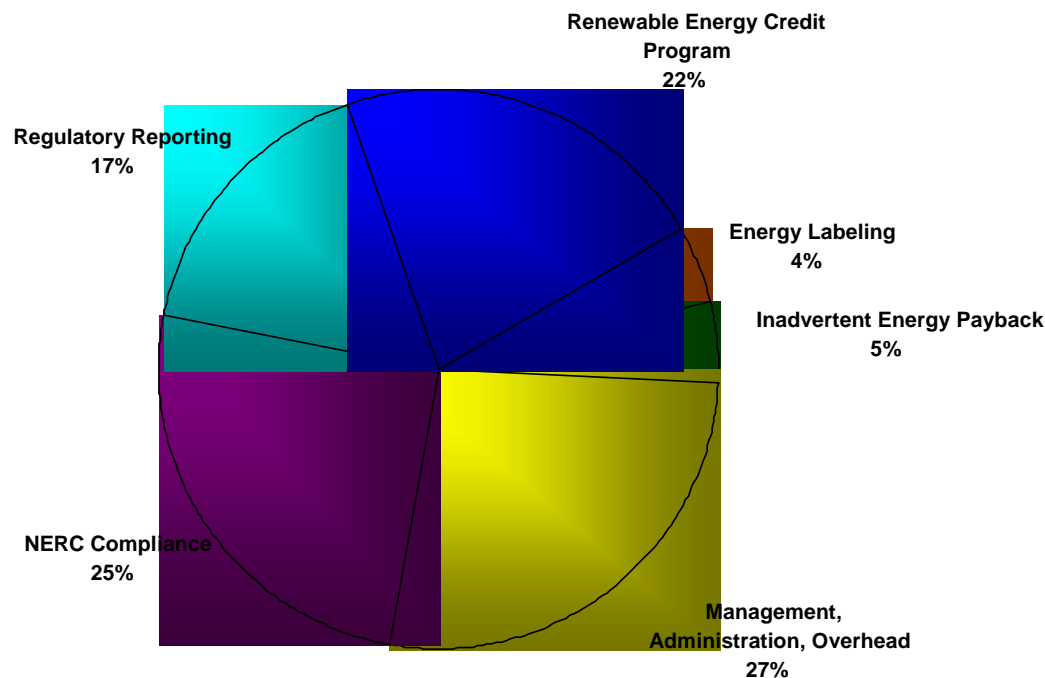
# 460 – Regulatory Support and Reporting Headcount Overview



## Summary Points

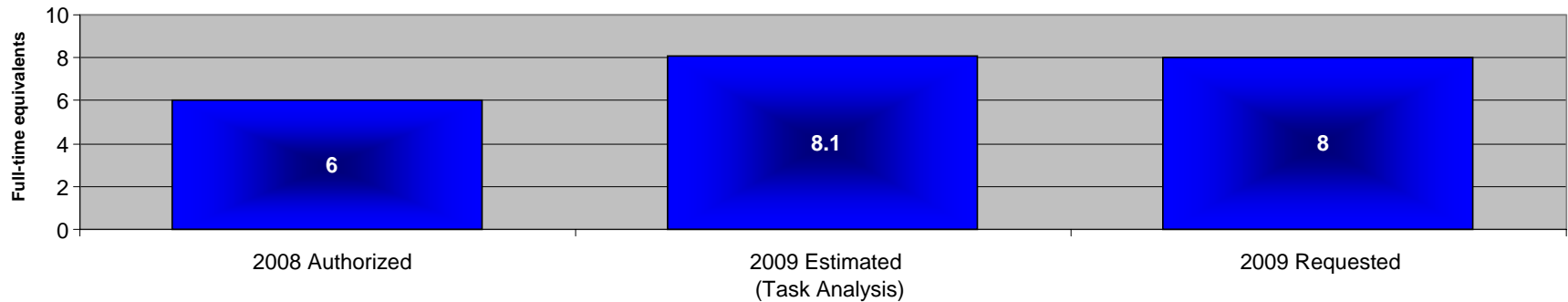
1. Approved headcount reflects historic responsibilities
2. Estimated resource levels include proactive involvement in NERC standards development. Risk of not performing is missed opportunities to influence planning standards, leading to potential greater investment in transmission expansion or evaluation.
3. Estimated resource levels include effort required to review ERCOT Protocols, other binding documents and regional standards to ensure delegation authority is clear regarding compliance with NERC standards
4. Energy Labeling effort per PUCT Rule 25.476 has not yet been started for this year due to lack of resources – plan is to outsource this year.
5. Task analysis justifies over 6 headcount, through prioritization and efficient scheduling of resources, only 1 incremental headcount is requested.

# 460 – Regulatory Support and Reporting (RSR) Allocation by Function



## Key Points

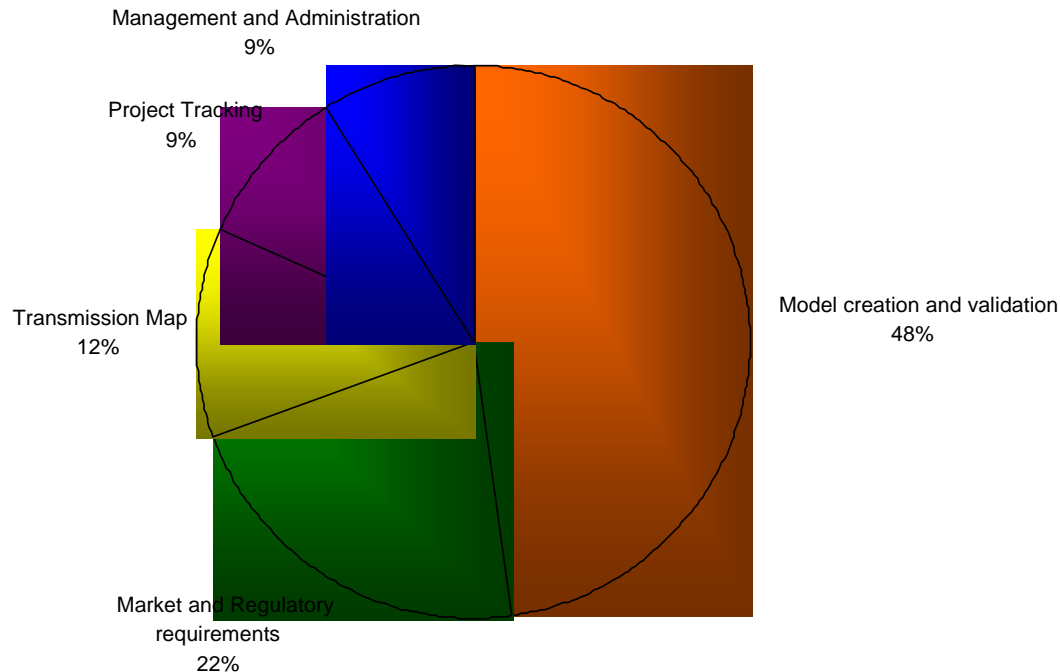
- Manage the PUCT Texas REC program functions and Emissions Labeling Program
- Ensure ERCOT System Planning Compliance with NERC Standards. Additional responsibilities requiring additional FTE.
- Prepare reports for NERC, PUCT, and ERCOT Stakeholders, NERC Seasonal Assessments, Demand and Energy Reports, PUCT Annual Constraints and Needs Report, and others
- Maintain database for Generation Interconnection activities, load and generation information



## Summary Points

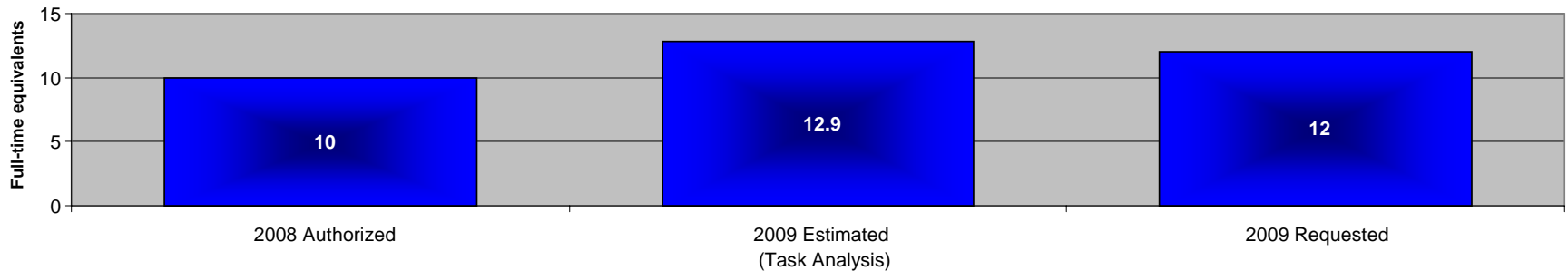
1. Approved headcount reflects historic responsibilities
2. Incremental headcount includes more detailed model validation to support the Nodal Protocol NMMS system requirements for accurate and comprehensive system models
  - Model scrutiny likely to increase as the details in the models affect LMPs and other commercial outcomes.
3. Two additional FTEs requested.
4. The new proposed headcount level assumes both internal business process efficiencies and the level of automation specified in the Nodal IT systems requirements.

# 471 – Planning Services Allocation by Function



## Key Points

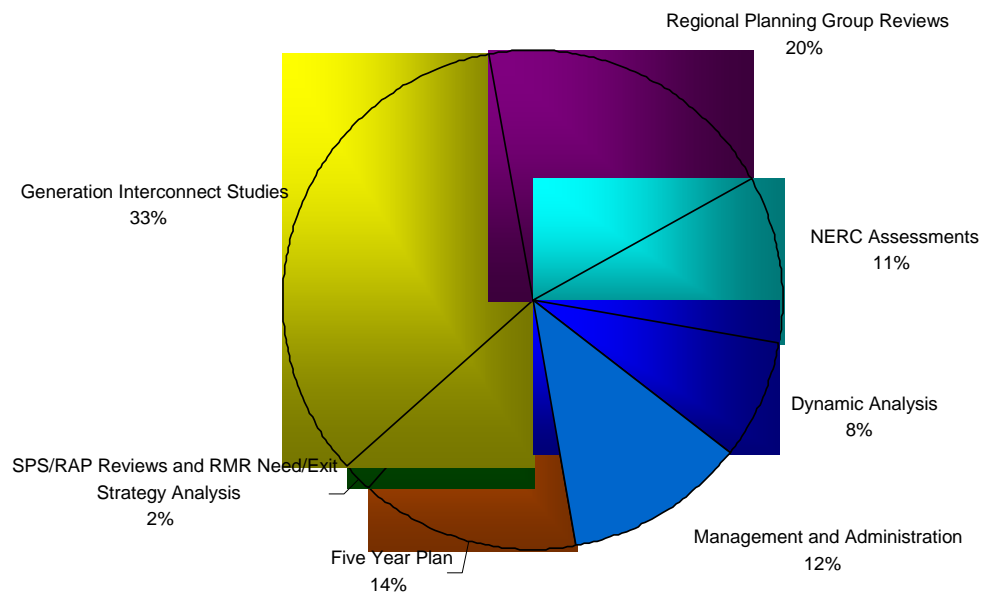
- ❑ **Planning Services coordinates the development and validation of numerous, widely-used models and databases, including:**
  - ❑ **System power flow, short circuit duty and other data bases**
  - ❑ **Transmission system maps used by planners and operators**
  - ❑ **Transmission Project Tracking – database of transmission project scope, status and cost**



## Summary Points

1. Task analysis (2009 Estimated) reflects:
  - New NERC assessment requirements
  - Recognized need for additional analysis for Five-Year Plan
  - Decrease in number of generation interconnections, but increased complexity and need to provide additional oversight of this process
2. 2008 approved headcount reflects historic responsibilities plus ability to meet a portion of the incremental workload identified in the Task Analysis
3. Two additional FTEs requested to meet additional workload (in addition to some efficiency gains in project reviews).

# 472 – Regional Planning Allocation by Function

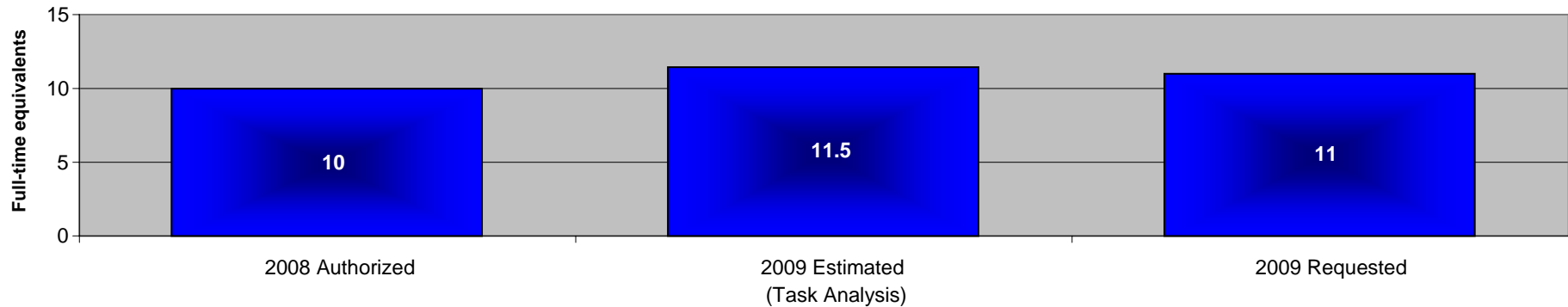


## Key Points

- ❑ Regional Planning is responsible for transmission planning in the first 5 years of the planning horizon:
  - ❑ Develops the coordinated 5 year transmission plan for ERCOT Region and evaluates proposed transmission projects
  - ❑ Demonstrates compliance with NERC planning standards
  - ❑ Performs and coordinates generation interconnection studies



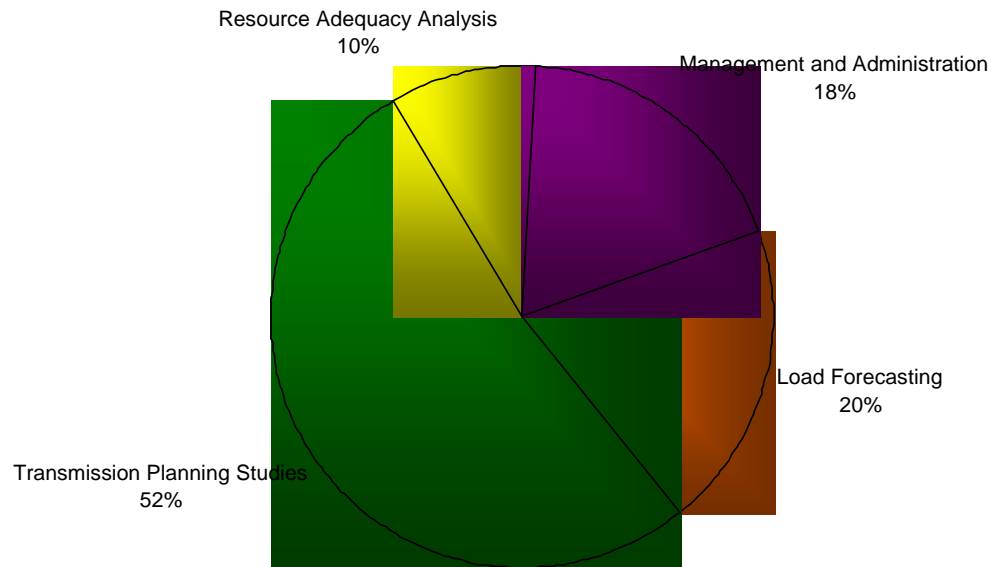
# 473 – System Assessment Headcount Overview



## Summary Points

1. Regulatory-driven planning studies have increased and are expected to continue:
  - Higher complexity and documentation requirements
  - Support for RFIs, Docket reviews, and stakeholder inquiries is significant
2. Long-Term and other system assessments will require more scenarios and more complex analyses
  - Senate Bill 20 requirement for a biennial ERCOT study (and report) of the need for increased transmission and generation capacity
  - New nuclear, clean coal and other long-term resource integration studies
3. Resource adequacy, ancillary services, intermittent resources, and demand response are all significant emerging issues for this group
4. One additional FTE requested to maintain workload (in addition to some efficiency gains).
5. Contractor support (at ~\$210/hour) is being sought to complete current studies (CREZ), and will be required in 2008 to complete the Long-Term Study.

# 473 – System Assessment Allocation by Function



## Key Points

- ❑ **System Assessment group's responsibilities are for longer-term and more "strategic" studies, including:**
  - ❑ **Transmission Planning Studies (long-range planning, system-wide studies and regulatory studies (CREZ, e.g..))**
  - ❑ **ERCOT's long-term econometric load forecast**
  - ❑ **Resource adequacy analysis**

Questions?

**DIRECT TESTIMONY OF**

**KENT SAATHOFF**

**VICE-PRESIDENT OF SYSTEM OPERATIONS**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF KENT SAATHOFF**

2

3                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

4

5   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

6   A.     My name is Kent Saathoff. My business address is 7620 Metro Center Drive,  
7           Austin, Texas 78744.

8

9   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

10   A.    I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
11           Vice President of System Operations.

12

13   **Q.     PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
14           **QUALIFICATIONS.**

15   A.    I have a Bachelor of Science in Electrical Engineering from the University of  
16           Texas at Austin, and I am a registered Professional Engineer in the State of Texas.  
17           I started my career in 1973 at Houston Lighting and Power Company in  
18           distribution system protection. In 1977, I joined the Staff of the Public Utility  
19           Commission of Texas ("PUCT") where I was responsible for project review and  
20           testimony in proceedings regarding transmission and generation project  
21           certification, plant depreciation and rate design. Before leaving the Commission  
22           in 1986, I served as Director of the Electric Division. From 1986-88, I was  
23           Manager of Generation Planning for the City of Austin Electric Department (now  
24           Austin Energy). In 1988, I began my employment with ERCOT as Principal  
25           Engineer. In 1996, I became Manager of Transmission Market Operations, and in  
26           2000, I was named the Director of Technical Operations. In 2002, I became  
27           Director of System Operations, and assumed my present position of Vice  
28           President of System Operations in 2007.

29

1 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS VICE PRESIDENT**  
2 **OF SYSTEM OPERATIONS.**

3 A. My responsibilities as Vice President of System Operations include supervising  
4 and directing the efforts of two Directors and a Manager in the areas of Grid  
5 Operations, Market Operations Systems and Operating Standards, as well as  
6 overall management of the System Operations organization within ERCOT. I  
7 report to the ERCOT Chief Operating Officer.

8  
9 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITY**  
10 **COMMISSION OF TEXAS?**

11 A. Yes, on numerous occasions when I was employed by the Commission and in a  
12 previous ERCOT System Administration Fee ("SAF") case.

13  
14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. My testimony supports ERCOT's request for a revised SAF. My testimony  
16 focuses on the funding requirements of the System Operations division, the  
17 organization within ERCOT for which I am responsible. I provide an overview of  
18 the System Operations organization and of the changing demands facing System  
19 Operations as ERCOT begins working within the Nodal System framework. In  
20 addition, I discuss the results of the "deep dive" analysis supporting the System  
21 Operations organization's portion of the 2009 budget approved by the ERCOT  
22 Board of Directors. I also address the justification for the expenses in the System  
23 Operations budget not associated directly with its personnel headcount.

24  
25 **II. OVERVIEW OF THE SYSTEM OPERATIONS DIVISION**  
26

27 **Q. PLEASE EXPLAIN HOW YOU ARE FAMILIAR WITH THE**  
28 **OPERATIONS, ACTIVITIES AND BUDGET REQUESTS OF THE**  
29 **SYSTEM OPERATIONS DIVISION.**

30 A. As the Vice President of System Operations, I am very familiar with the  
31 operations, activities and budget requests of the System Operations Division. I

1 have worked in the division in senior management roles for the entire existence of  
2 the division.  
3

4 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE**  
5 **SYSTEM OPERATIONS DIVISION OF ERCOT.**

6 A. System Operations is responsible for the day-to-day real time monitoring of the  
7 entire ERCOT electric system, operation of ERCOT market systems, and  
8 deployment of resources to maintain system reliability, including management of  
9 transmission congestion. System Operations also is involved in the development  
10 and testing of improvements to the Energy Management and Market System  
11 (“EMMS”) software, responding to inquiries and disputes from market  
12 participants regarding operating practices and events, and complying with  
13 mandatory electric operations reliability standards.  
14

15 **Q. HOW DOES THE SYSTEM OPERATIONS DIVISION PERFORM ITS**  
16 **RESPONSIBILITIES?**

17 A. The areas under my supervision are Grid Operations, Market Operation Systems  
18 and Operating Standards. Grid Operations employs six shifts of System  
19 Operators that are on duty 24 hours a day, seven days a week monitoring and  
20 controlling the ERCOT electric system. Grid Operations also includes technical  
21 staff that conduct studies and perform other analyses that insure the operators  
22 have the information they need on the current and future system configuration to  
23 reliably operate that system. Market Operation Systems oversees the operation of  
24 the ERCOT market systems, determines how operations can be enhanced from a  
25 market standpoint and responds to market participant inquiries regarding market  
26 operations. Operating Standards’ responsibility is to ensure the division is  
27 complying with mandatory North American Electric Reliability Council  
28 (“NERC”) operating reliability standards, and ERCOT Protocols and Operating  
29 Guides. The Operating Standards staff also participates in the development of  
30 new and revised NERC reliability standards.  
31

1   **Q.   PLEASE DESCRIBE THE SYSTEM OPERATIONS DIVISION'S**  
2   **RECENT MAJOR ACCOMPLISHMENTS.**

3   A.   In the System Operations division, some of our greatest accomplishments have to  
4   do with what *does not* happen: if the ERCOT grid operates reliably, the lights stay  
5   on, and no one notices our work, we have delivered on our core mission. The  
6   System Operations division currently includes forty-eight (48) system operators  
7   staffing two control centers, one primary and one backup facility. The control  
8   rooms run two shifts all day, every day, with eight individuals on each shift.  
9   When difficult issues arise that can impact the electric grid, our team is  
10   responsible for doing whatever is necessary to maintain electric reliability. For  
11   example, in early 2007 many parts of Texas experienced unusually cold and icy  
12   conditions. The peak demand during the ice storm was 50,409 megawatts  
13   ("MW") – a 31 percent increase over the previous year's January peak and a  
14   record winter peak demand. ERCOT system operators ensured that the system  
15   weathered the mid-January storm with no major operational issues. Many system  
16   operators and engineering support staff spent several nights in nearby hotels  
17   between their shifts to ensure that they would be able to get to work despite the  
18   icy conditions.

19   The System Operations division is proud of the dedication of our operators, and  
20   also committed to their professional excellence. Each operator receives more than  
21   120 hours of training per year. Federal reliability standards require that grid  
22   operators receive continuing training (depending on the operator's  
23   responsibilities) for operator re-certification, which occurs every three years.  
24   ERCOT operators hold the highest level of certification, which requires 200 hours  
25   of continuing training. The certification standard also requires that a minimum of  
26   40 hours of simulator training be included.

27   During 2007, ERCOT enhanced its ability to offer operators simulator training. A  
28   new control center simulator system at ERCOT's Taylor training facility went  
29   "live" in May 2007 following a year of implementation work by ERCOT staff and  
30   the vendor. ERCOT system operators and the region's transmission operations  
31   personnel completed four cycles of simulator training using the new facility. The



1 simulator allows operators to receive hands-on training on extreme system  
2 conditions without any impact to the grid. The system replicates the ERCOT  
3 control center computer systems and also includes a power system model to  
4 mimic the behavior of power systems and a subsystem to create events under  
5 various operating conditions. The simulator system also incorporates real-time  
6 market data in parallel with the normal real-time operation of the ERCOT system.  
7 In addition, operations and notifications of energy scheduling entities are included  
8 to simulate their expected actions.

9 Operators received additional training during the annual severe weather storm  
10 drill in November 2007. Thirty-three transmission operators and energy  
11 schedulers from across the ERCOT region participated in the drill, which  
12 simulated a severe winter storm with multiple transmission outages and  
13 generation shortages. The drill culminated in the simulation of rotating blackouts  
14 over 200,000 households to prevent a system-wide blackout. Energy schedulers  
15 and transmission and distribution providers were able to test backup emergency  
16 plans and practice communications with ERCOT during events leading up to the  
17 simulated storm and the rotating outages, as well as restoration activities.

18 The implementation of the Nodal market has required an enormous commitment  
19 of time and resources from System Operations staff. The division's Market  
20 Operating Systems staff redeployed 75 percent of its workforce to work on the  
21 Nodal market project, while maintaining necessary support of zonal activities.  
22 The team worked diligently on the vital Market Management System ("MMS"),  
23 and carried the MMS from the early design phase through Pre-Factory  
24 Acceptance Testing. The division also implemented a Real-time Constraint  
25 Activity Manager, enabling real-time evaluation of the effect of individual  
26 generating units on a transmission constraint in order to dispatch units more  
27 effectively and efficiently to manage local congestion. This capability is  
28 necessary for Nodal Security Constrained Economic Dispatch ("SCED")  
29 operations. In addition, Market Operating Systems staff worked on the  
30 development of a Common Interface Model ("CIM") to represent the ERCOT

1 transmission network, which must function properly for Nodal implementation to  
2 be fully successful.

3 In 2007, the division established an operating standards department dedicated to  
4 maintaining compliance with NERC Reliability Standards and ERCOT Protocols.  
5 The first audit addressed was from NERC/Texas Regional Entity (“TRE”) and  
6 resulted in an accepted mitigation plan for six minor deficiencies. In addition,  
7 ERCOT’s internal audit department conducted an audit of system operators and  
8 found them in compliance with 99.8 percent of operating procedures, with the one  
9 exception being a low-risk violation that has also been remedied.

10  
11 **Q. HOW DO YOU EXPECT THE RESPONSIBILITIES OF THE SYSTEM**  
12 **OPERATIONS DIVISION TO CHANGE WITH THE OPENING OF THE**  
13 **NODAL MARKET IN THE ERCOT REGION?**

14 **A.** On balance, implementation of the Nodal market will significantly increase the  
15 responsibilities and functions of the System Operations division. Some key Zonal  
16 functions performed by the division that will cease after Nodal implementation  
17 are simply replaced by new Nodal functions. For example, Balancing Energy  
18 determinations (on 15 minute intervals) are replaced by SCED determinations (on  
19 five minute intervals); Replacement Reserve studies and markets will no longer  
20 exist, but will be replaced by the Reliability Unit Commitment (“RUC”) processes  
21 in Nodal.

22 Other functions performed by division staff in the Zonal market still must be  
23 performed in the Nodal market. These functions include:

- 24 (1) Load frequency control;  
25 (2) Transmission congestion management;  
26 (3) Ancillary services procurement and qualification of ancillary services  
27 providers;  
28 (4) Annual Black Start procurement and planning;  
29 (5) Maintenance of Network Model; and  
30 (6) Support and assistance to Market Participants.

1 In these areas, the workload of the division remains the same or greater as it was  
2 before the Nodal transition, using new systems with different requirements.

3 Finally, there are entirely new tasks for System Operations personnel created by  
4 the need to operate new Nodal systems. The System Operations staff will run the  
5 Day-Ahead Energy Market, an entirely new market to be administered by  
6 ERCOT. There are increased requirements in the Nodal Protocols for outage  
7 coordination, and more stringent reporting requirements for the state estimator.  
8 We expect that, especially in the initial months of Nodal operations, there will be  
9 a substantial amount of work to do assisting Market Participants in working with  
10 the new systems, answering questions and complying with the increased reporting  
11 requirements.

12 Moreover, the increased quantity of data generated by Nodal systems – and the  
13 speed with which it is collected and must be assimilated – increases the quantity  
14 of work involved in performing some tasks that are similar to those in the Zonal  
15 context. For example, in the Zonal market, ERCOT staff is responsible for  
16 verifying one to four prices (for the four zones) every 15 minutes; the Nodal  
17 systems will generate approximately 7,000 Locational Marginal Prices (“LMPs”)  
18 every five minutes. The LMPs require validation or correction before 4:30 PM  
19 the next day. In the Zonal market, division personnel validate one Network  
20 Model every two weeks; in the Nodal market, the MMS model will require two  
21 validated models every day.

22  
23 **Q. DO YOU EXPECT THAT 2009 WILL PROVIDE A RELIABLE GUIDE**  
24 **FOR THE SYSTEM OPERATIONS DIVISION’S BUDGET NEEDS IN**  
25 **THE YEARS AHEAD?**

26 **A.** No. The transition to the Nodal market will transform many aspects of the  
27 System Operations division’s work. Until the Nodal market has been operational  
28 for awhile – and ERCOT and Market Participants become familiar with all its  
29 nuances – it is not possible to say with absolute certainty where divisional  
30 resource needs may increase or decrease. The System Operations division staff  
31 worked diligently to develop their best estimates of our workload and headcount

1 after the Nodal transition, but the actual needs will have a lot to do about how the  
2 Nodal market works in practice.

3  
4 **Q. ARE THERE OTHER DEVELOPMENTS EXPECTED THAT AFFECT**  
5 **THE RESPONSIBILITIES OF THE SYSTEM OPERATIONS DIVISION?**

6 A. Yes. ERCOT expects that the standards-setting and regulatory bodies responsible  
7 for enforcing federal reliability requirements will increase their activity in the  
8 coming year. The Federal Energy Regulatory Commission (“FERC”), NERC and  
9 TRE are all committed to maintaining reliability, and we expect the amount of  
10 scrutiny and the number of audits of ERCOT systems will increase as those  
11 entities increase their staffing and regularize their enforcement operations.  
12 ERCOT does not control the frequency of audits or other oversight activity, but  
13 those activities have a significant impact on the workload of personnel who must  
14 be involved in responding to requests from the regulatory and standards  
15 organizations.

16  
17 **III. SYSTEM OPERATIONS FUNCTIONS AND HEADCOUNTS**  
18

19 **Q. HOW DID THE SYSTEM OPERATIONS DIVISION DEVELOP ITS**  
20 **PROPOSED HEADCOUNT FOR THE 2009 BUDGET?**

21 A. As other witnesses describe in more detail, the entire ERCOT organization  
22 collectively performed an internal review of all functions and positions as part of  
23 development of the 2009 budget. The “deep dive” process called on every  
24 department within each division to justify the need for all staff positions. This  
25 process called on all ERCOT managers to demonstrate that their staffing levels:  
26 (a) reflect all possible efficiencies going forward rather than simply repeating  
27 what was done in the past; and (b) are aligned with the new activities ERCOT is  
28 undertaking as part of the transition to the Nodal System.

29 The System Operations division’s budget is driven primarily by the costs of labor  
30 and benefits paid to our employees and, when necessary, outside contractors. The  
31 System Operations division conducted a department-by-department functional

1 task analysis, which provided the basis for the headcount requests included in the  
2 Board-approved 2009 budget. Each department started its analysis from a zero  
3 headcount and documented its requested headcount based on the tasks that are  
4 within its designated responsibilities. Each department's task analysis was  
5 analyzed by division management. Division management worked with  
6 departmental staff as well as ERCOT's Finance organization to develop specific  
7 line items in the System Operations Division budget request.

8  
9 **Q. IS THERE DOCUMENTATION TO SUPPORT EACH OF THE SYSTEM**  
10 **OPERATIONS DIVISION'S DEPARTMENTAL DEEP DIVE ANALYSES?**

11 A. Yes. The deep dive analyses for the System Operations division are attached to  
12 my testimony as Exhibit KS-1.

13  
14 **Q. HOW WOULD YOU SUMMARIZE THE FINDINGS OF THE "DEEP**  
15 **DIVE" ANALYSIS FOR THE SYSTEM OPERATIONS DIVISION?**

16 A. As I stated in response to previous questions, I expect the workload of the  
17 division to increase significantly with the implementation of the Nodal market.  
18 System Operations will not be able to carry out its duties to operate a reliable  
19 system in 2009 according to the Nodal Protocols at pre-Nodal project staffing  
20 levels. Our department-by-department deep dive analysis indicated a need for a  
21 net 16 additional staff members above the number of Full-Time Equivalents  
22 ("FTEs") currently authorized in 2008. I have examined the departmental  
23 analyses that reached this conclusion and believe that each has merit based on the  
24 potential increases in workload in 2009.

25 While division staff estimated large potential increases in workload, the analysis  
26 also recognized that much of the potential increase is based on speculation about  
27 Nodal operations and FERC/NERC/TRE regulatory oversight requirements that  
28 cannot be accurately quantified at this time. At the same time, division staff also  
29 found that there could be potential efficiencies created post-Nodal, such as: (a)  
30 combining the real-time grid and market system operating functions within the  
31 division; and (b) reducing the outage scheduling transmission case requirements

1 of the network modeling group. In addition, division management considers it  
2 feasible to significantly reduce the headcount associated with the back-up control  
3 center. Overall, the division will attempt to minimize increases in headcount until  
4 there is more certainty about workload levels, and fill gaps temporarily with  
5 overtime work by existing staff.  
6

7 **Q. WHAT DID DIVISION MANAGEMENT CONCLUDE WITH REGARD**  
8 **TO REQUESTING ADDITIONAL FTEs IN 2009?**

9 A. We determined that the most prudent course overall was to request one additional  
10 FTE for 2009, and attempt to manage additional workload at that staffing level  
11 until we know more about the demands the Nodal market and increased  
12 regulatory oversight will actually have on the workload of the division. The  
13 division achieved this outcome by attempting to match increases in certain  
14 departments with corresponding decreases where possible in other departments.  
15 The overall headcount for the System Operations division approved by the  
16 ERCOT Board of Directors is therefore 158, an increase of one FTE over the  
17 2008 authorized headcount of 157.  
18

19 **Q. IF OPERATING THE NODAL MARKET IN 2009 IS A SIGNIFICANT**  
20 **INCREASE IN WORKLOAD FROM OPERATING THE EXISTING**  
21 **ZONAL MARKET, WHY ARE YOU ASKING FOR ONLY ONE**  
22 **ADDITIONAL FTE FROM THE 2008 HEADCOUNT?**

23 A. Many of the FTEs in the 2008 headcount are working on the Nodal project  
24 development, testing and implementation. These FTEs will transition to Nodal  
25 market operation in 2009 or be phased out during 2009 and replaced by FTEs  
26 with different skill sets that will be needed.  
27

28 **Q. PLEASE IDENTIFY THE DEPARTMENTS WITHIN THE SYSTEM**  
29 **OPERATIONS DIVISION.**

30 A. The System Operations division is divided into three groups: (1) Grid Operations;  
31 (2) Market Operations Systems; and (3) Operating Standards. Grid Operations is

1 by far the largest unit within the division, accounting for eight of the 12  
2 departmental units in System Operations. There is also a divisional  
3 administration department.  
4

5 **Q. IS THE ADMINISTRATION DEPARTMENT RESPONSIBLE FOR**  
6 **OVERALL MANAGEMENT OF THE SYSTEM OPERATIONS**  
7 **DIVISION?**

8 A. Yes. It is responsible for the overall management of the division, and includes  
9 myself, and the Directors of Grid Operations and Market Operations Systems.  
10

11 **Q. HOW DID THE ADMINISTRATION DEPARTMENT ESTABLISH ITS**  
12 **HEADCOUNT?**

13 A. The authorized headcount for the administration department in 2008 was four (4)  
14 FTEs. Our deep dive analysis indicated that the Administration department's  
15 functions are not appreciably different than in 2008, but that a Market Redesign  
16 Supervisor would no longer be necessary upon completion of the Nodal project.  
17 Therefore, the headcount approved by the Board for 2009 is three (3) FTEs.  
18

19 **Q. DO THE DEPARTMENTS WITHIN SYSTEM OPERATIONS SHARE**  
20 **ANY COMMON TASKS?**

21 A. Yes. Personnel in all departments are called upon to provide expertise for certain  
22 activities that cross departmental lines. These activities are not normally part of  
23 the day-to-day functions of department staff, but they can sometimes require  
24 substantial commitments of time. Such activities include:

- 25 (1) Staff participation in dispute resolution proceedings brought by Market  
26 Participants;
- 27 (2) Providing support, including research and oral or written reports and  
28 testimony, to the Commission, the Legislature, Market Participants, or  
29 other ERCOT departments;
- 30 (3) Providing necessary input to management activities such as SAS 70  
31 reporting and audit requests; and

(4) Participating in activities related to the transition from the Zonal to the Nodal System.

In each department's "deep dive" task analysis, department leadership took these internal management activities into account in developing headcount estimates.

**Q. WHAT STEPS WILL THE SYSTEM OPERATIONS DIVISION TAKE TO MAXIMIZE LABOR PRODUCTIVITY IN 2009?**

A. Management of the areas within the division must ensure the full and effective use of all employees. If some expected work for 2009 does not materialize, management will reevaluate the need to replace personnel as a result of natural turnover. If any particular employees are not fully utilized at any time, management will ensure the maximization of the employee's contribution by assigning additional work to the employee, reassigning the employee or even terminating the employee, if we cannot identify any required work of equal or greater value. System Operations management believes we took strong affirmative steps to maximize labor productivity and minimize headcount by substantially reducing control center headcount in eliminating a back-up desk and requesting fewer FTEs than indicated by the deep dive task analyses as discussed previously.

**Q. WHAT ARE THE SPECIFIC HEADCOUNT REQUESTS FOR EACH DEPARTMENT WITHIN THE SYSTEM OPERATIONS DIVISION?**

A. The following chart was prepared as part of the division's deep dive analysis. It compares the departmental FTE numbers authorized in 2008 to those approved in the 2009 Budget by the ERCOT Board of Directors:

**Table 1: System Operations  
Summary of Staffing**

Department	2008 Authorized	2009 Requested
410 - Market Operations Support	25	26



422 - Network Model	14	21
415 - Operations Standards	4	6
428 - Control Center	53	45
405 - System Operations Division Project Organization	4	4
421 - Outage Coordination	12	12
423 - Operations Planning	9	8
424 - Advanced Network Applications	8	9
426 - Operations Engineering	12	11
420 - Operations Support Administration	3	4
427 - Operations Training	9	9
402 - System Operations Administration	4	3
<b>Total</b>	<b>157</b>	<b>158</b>

As shown in Figure 1, the overall authorized headcount for System Operations increases by one (1) FTE in 2009.

#### **A. GRID OPERATIONS**

**Q. DIRECTING YOUR ATTENTION TO THE HEADCOUNTS FOR THE DEPARTMENTS WITHIN GRID OPERATIONS, PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT FOR THE CONTROL CENTER DEPARTMENT.**

**A.** The 2009 budget headcount for the Control Center includes 45 FTEs. This is a reduction of eight (8) FTEs from the 2008 authorized headcount. The Control Center department increased its staffing considerably in 2007-08 to meet the need for an additional Transmission Security Operator on each shift and support efforts to test Nodal market systems. The FTEs authorized in 2007 totaled 57 (an increase of seven (7) FTEs over 2006), and came down to 53 in 2008. As the Nodal transition process winds down, the department is now able to better assess what its “steady state” FTE count should be based on the workload expected after

1 Nodal Go-Live. The deep dive analysis indicated that the Control Center could  
2 make a large reduction in FTEs by the elimination of a second back-up desk in the  
3 Control Center (6 FTEs) and three operators dedicated to the Nodal project  
4 development. Management believes having only one operator at the back-up  
5 center will still enable transition of control from the primary control center to the  
6 back-up center during emergencies and there will be fewer manual work-arounds  
7 in the Nodal system, many of which are handled by the back-up center operators.  
8 On the other side of the ledger, the department added one (1) FTE to assist in  
9 departmental administration and NERC/TRE compliance audits, an area where  
10 the Control Center staff found it was unable to efficiently manage workload with  
11 existing staff. This FTE will also be able to fill in on operating desks if needed.  
12 Overall, the addition and reductions resulted in the 45 FTE count incorporated  
13 into ERCOT's 2009 budget.  
14

15 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
16 **FOR THE DIVISIONAL PROJECT ORGANIZATION ("DPO")**  
17 **DEPARTMENT.**

18 A. The 2009 budget headcount for the System Operations DPO is four (4) FTEs, the  
19 same number as authorized for 2008. The DPO department staff expects that the  
20 arrival of the Nodal market will change the nature of the capital projects the  
21 division will be called upon to perform, but not necessarily the number or size of  
22 the projects. The department's estimates are based on an assumption that the  
23 DPO will take on 10 projects of average size in 2009. The department's deep  
24 dive analysis concluded that the most reasonable course for 2009 is to maintain  
25 current staffing and address any shortfalls with contractor assistance and overtime  
26 charged to the particular projects involved.  
27

28 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
29 **FOR THE OUTAGE COORDINATION DEPARTMENT.**

30 A. The Outage Coordination department headcount in the 2009 budget includes 12  
31 FTEs. The department increased its staff to 12 FTEs in 2007 as part of Nodal

1 market development, and believes maintaining the 12 FTE headcount will meet  
2 the department's needs after Nodal implementation. Most of the department's  
3 functions and services do not change with the move from Zonal to Nodal. For  
4 example, over 70 percent of the departmental workload is related to the evaluation  
5 of outages and creation of metrics and reports regarding outages. This function  
6 will not change based on the move to the Nodal market. Outage Coordination is  
7 responsible for new analyses required by the ERCOT Protocols, including: (a)  
8 additional studies required for Over 90-Day outage analysis (Section 3.1.5.3); (b)  
9 gap analysis is now required to account for Simple Outages (Sections 3.1.5.12,  
10 3.1.6.8, and 3.1.6.6); and (c) new metric and reporting analysis is required by  
11 Section 8 of the Nodal Protocols. Departmental staff believes these new functions  
12 can be accommodated within current staffing levels, even though the deep dive  
13 task analysis estimated need for one (1) additional FTE.

14  
15 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
16 **FOR THE OPERATIONS PLANNING DEPARTMENT.**

17 **A.** The headcount for the Operations Planning department approved by the Board for  
18 the 2009 budget is eight (8) FTEs, one less than authorized for 2008. The  
19 department has increased its staffing level by two (2) FTEs since 2006 based on  
20 increased demands associated with the development of the Nodal market. The  
21 Operations Planning department estimates additional workload for 2009, but plans  
22 to handle the workload within the requested staffing level. The new demands on  
23 departmental staff come from three areas. First, the Load Frequency Control  
24 Applications (security constrained economic dispatch ("SCED") interfaces)  
25 introduce operational complexity that will require additional work and support by  
26 staff members. Second, the new hourly reliability unit commitment ("RUC")  
27 application runs once per hour, creating many more opportunities for necessary  
28 support over the levels experienced with the replacement reserve service  
29 ("RPRS") system that has run once per day. Finally, management expects  
30 additional demand for Operations Planning staff time devoted to NERC standards  
31 requirements and compliance activities.

1  
2 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
3 **FOR THE ADVANCED NETWORK APPLICATIONS DEPARTMENT.**

4 A. The Advanced Network Applications department's authorized headcount in the  
5 2009 Board-approved budget is nine (9) FTEs. The department's 2008 headcount  
6 includes six (6) employees devoted to Zonal duties and two (2) working on Nodal  
7 Program development. Once the Nodal market is operational, all of these FTEs  
8 will devote their time to several new functionalities to be run and managed by the  
9 Advanced Network Applications Department. The challenges associated with  
10 these tasks include:

- 11 (1) Meeting the new telemetry and State Estimator performance requirements;
- 12 (2) Ensuring that the EMS solution maintains the quality necessary to keep  
13 LMPs accurate, and that the State Estimator solution supports critical grid  
14 and market operations;
- 15 (3) Conducting the new testing necessary to keep up with business processes  
16 that call for multiple load models each week;
- 17 (4) Developing new reports on State Estimator and other critical applications;  
18 and
- 19 (5) Maintaining newly developed network applications associated with the  
20 Nodal market.

21 Management believes and the task analysis supports that the department will need  
22 one (1) additional FTE to manage these tasks.  
23

24 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
25 **FOR THE OPERATIONS ENGINEERING DEPARTMENT.**

26 A. The Operations Engineering department's headcount in the 2009 budget is 11  
27 FTEs, one less than the 2008 authorized level (and equal to the department's  
28 headcount for 2007). This department provides direct engineering support to the  
29 Control Room operators. The department is in the process of creating a 24x7  
30 engineering support shift of six engineers that will be available to support Control  
31 Room personnel at all times. The 24x7 shift will be in place before the Nodal

1 transition occurs. Management believes this increased engineering support is  
2 necessary to monitor and adjust Nodal operations as they get underway.

3  
4 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
5 **FOR THE OPERATIONS MANAGEMENT & ADMINISTRATION**  
6 **DEPARTMENT.**

7 A. The 2009 budget includes a total of four (4) FTEs for the Operations Management  
8 & Administration department, an increase of one (1) FTE over the authorized  
9 2008 headcount. This department has a need for increased staffing for two  
10 specific reasons. First, the department plans to hire junior engineers to enter a  
11 training pipeline to address the department's difficulties in hiring and retaining  
12 qualified engineers. Second, the department anticipates the need for additional  
13 support for preparation of ERCOT responses to NERC, TRE, and stakeholder  
14 requests, and to provide operating engineering expertise to ERCOT's team that  
15 drafts comments on NERC standard development.

16  
17 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
18 **FOR THE OPERATIONS TRAINING DEPARTMENT.**

19 A. The Operations Training department has maintained its current headcount of nine  
20 (9) FTEs since 2006. The Nodal market changes will affect the content of the  
21 Training department's programs, but will not affect the overall volume of training  
22 required of ERCOT system operators. The ERCOT training requirements are:

- 23 (1) Six 30-hour classroom training cycles per year;  
24 (2) Six-week Annual Seminar;  
25 (3) Four-week Annual Black Start training; and  
26 (4) Six 6-hour Operator Training Simulator ("OTS") training cycles per year.

27  
28 **B. WHOLESALE MARKET OPERATING SYSTEMS**

29  
30 **Q. DIRECTING YOUR ATTENTION TO THE WHOLESALE MARKET**  
31 **OPERATING SYSTEMS GROUP IN SYSTEM OPERATIONS, PLEASE**

1           **DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT FOR THE**  
2           **MARKET OPERATIONS SUPPORT DEPARTMENT.**

3       A.     The Market Operations Support department's headcount in the 2009 budget  
4           includes 26 FTEs, an increase of one (1) over the 2008 authorized headcount.  
5           Market Operations Support is one of the groups in the System Operations division  
6           most affected by the transition to the Nodal market. The deep dive analysis  
7           demonstrated a need for an increase in staffing to ensure there are sufficient  
8           resources to address the issues that arise once the Nodal market is operational.  
9           However, the analysis is admittedly somewhat speculative until the Nodal  
10          systems related to Market Operations functions are fully integrated and tested, and  
11          will not be truly certain until ERCOT has experience operating the Nodal market  
12          systems. In recognition of these cross-currents, management did not request the  
13          full complement of personnel suggested by the deep dive analysis (28 FTEs), but  
14          rather sought to increase the department's staff by only one FTE over 2008 (26  
15          FTEs).

16  
17       **Q.     WHAT ARE THE CHANGES ASSOCIATED WITH THE NODAL**  
18       **MARKET THAT WILL AFFECT THE WORK OF THE MARKET**  
19       **OPERATIONS SUPPORT STAFF?**

20       A.     As I discussed previously, the differences are most clear when one examines  
21           market functions performed today in the Zonal market versus what is expected in  
22           the Nodal market. For example:

<b>Zonal Market</b>	<b>Nodal Market</b>
Day-Ahead    Ancillary    Services Market	Nodal adds a Day-Ahead Energy Market, and requires co-optimization of Ancillary Service, Energy, and Congestion Revenue Rights ("CRRs").
Price validation involves prices for up to 4 zones every 15 minutes.	Nodal systems will produce over 7,000 LMPs every 5 minutes, with validation required by 4:30 PM the following day.
Replacement   Reserve   Service ("RPRS") executes once daily.	Reliability Unit Commitment ("RUC") requires a week-ahead study every day, a

	day-ahead study every day, and 24 hourly studies every day.
Department validates one Network Model every two weeks.	Nodal MMS system will require two models be validated every day.

The Market Operations Support department will face many significant challenges, and, as noted earlier, actual experience with the Nodal market may cause the department to reconsider its staffing levels during the course of 2009 and beyond.

**Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT FOR THE NETWORK MODELING DEPARTMENT.**

A. The Network Modeling department's headcount in the 2009 budget is 21 FTEs, an increase from the 14 FTEs authorized in the 2008 budget. Like the Market Operations Support department, the Network Modeling department will experience dramatic changes when the Nodal market becomes operational. Unlike the Market Operations Support department, however, it is clear the Network Modeling group will need a significant increase in its headcount to manage the changes caused by Nodal operations. This is the case because of the substantially increased Protocol requirements associated with the operation of the Network Model Management System ("NMMS"). Today, the department produces one network model and one case every two weeks. In the Nodal market, the department must generate 114 models and 8 cases per day using the NMMS. This new work has a direct impact on the Network Modeling department's workload. For example, each NMMS case takes two to three person-hours to create, thus unavoidably increasing the overall workload of the network modeling staff. Moreover, network modeling issues will have increased visibility in the Nodal world because of the major impact the network model has on LMPs and market determinations. This is expected to result in more Market Participant inquiries and interest in the details of modeling issues, which could add significantly to employee time demands. In fact, the deep dive task analysis for the department indicated a need for 27 FTEs, but management reduced the request and will seek to create maximum efficiencies in the department's work.

1  
2 **C. OPERATING STANDARDS**  
3

4 **Q. PLEASE DESCRIBE THE RATIONALE FOR THE 2009 HEADCOUNT**  
5 **FOR THE OPERATING STANDARDS DEPARTMENT.**

6 A. The Operating Standards department's headcount in the 2009 budget increases  
7 from the four (4) FTEs authorized in 2008 to six (6) FTEs. The Operating  
8 Standards department was created in late 2006, using personnel transferred from  
9 other System Operations departments. The department monitors and participates  
10 in the development and modification of NERC operating standards, serves as the  
11 point of contact for all FERC, NERC, or TRE audits of System Operations, and  
12 ensures that the division remains in compliance with all NERC standards and  
13 ERCOT Protocols. The department's workload today is beyond what can be  
14 managed effectively by its current staff, primarily because of increased activity by  
15 the NERC and TRE. The department expects its functions to remain relatively  
16 stable after the transition to the Nodal market, although there may be some impact  
17 due to the large number of new Nodal Protocols and Operating Guides applicable  
18 to System Operations activities.  
19

20 **IV. 2009 SYSTEM OPERATIONS BUDGET**  
21

22 **Q. WHAT IS THE TOTAL 2009 BUDGET FOR THE SYSTEM**  
23 **OPERATIONS DIVISION APPROVED BY THE ERCOT BOARD OF**  
24 **DIRECTORS?**

25 A. The total 2009 Board-approved budget is \$21,362,659. This compares to a total  
26 2008 budget of \$16,820,044.  
27

28 **Q. WHAT IS THE PRIMARY DRIVER OF THE EXPENDITURES IN THE**  
29 **SYSTEM OPERATIONS BUDGET?**



1 A. By far the largest expense in the System Operations division is for labor and  
2 benefits. Of the \$21 million in our 2009 budget, over \$18 million goes to pay our  
3 employees and provide them benefits.  
4

5 **Q. WHEN SYSTEM OPERATIONS BUDGET INCLUDES ONLY ONE**  
6 **ADDITIONAL FTE FROM THE 2008 AUTHORIZED LEVEL, HOW DO**  
7 **YOU EXPLAIN THE AMOUNT OF THE INCREASE IN THE**  
8 **DIVISION'S BUDGET?**

9 A. The division adds only one additional FTE over 2008, but the overall division  
10 budget increases by approximately \$4.5 million. The reason for this outcome is  
11 related to the way ERCOT accounts for the labor and benefits costs for those  
12 employees who are supporting the Nodal project. In 2007 and 2008, the System  
13 Operations division increased its expenditures on labor and benefits to meet the  
14 demands of the development of the Nodal System. ERCOT hired certain  
15 employees to assist in Nodal development and implementation who could then  
16 become part of the ERCOT team that will operate the Nodal System after Go-  
17 Live. During the development of the Nodal System, employees recorded their  
18 time to either the Nodal Program projects or ERCOT's "base operations" (*i.e.*,  
19 tasks not associated with the Nodal Program). This was necessitated by the need  
20 to track Nodal Program expenses separately, in part because they funded from a  
21 different source than ERCOT base operations. For purposes of the overall  
22 ERCOT base operations budget, when ERCOT employees recorded time to one of  
23 the Nodal projects, ERCOT effectively credited base operations to lower the base  
24 labor costs by the amount charged to Nodal.

25 For example, in 2008, the System Operations division's expenditures on labor and  
26 benefits are budgeted at \$18,019,420. Of that amount, \$5,030,166 was  
27 attributable to Nodal Program projects. For budgeting purposes, the \$5 million  
28 was credited against the salary related expenditures, and was slated for recovery  
29 via the Nodal Surcharge. The remaining labor and benefits amount was attributed  
30 to the division's base operations, and recovered from the System Administration  
31 Fee. In 2009, however, all labor and benefits costs will be attributed to ERCOT's

1 base operations. Therefore, the “credit” to the division’s labor and benefits  
2 budget no longer exists. In 2009, the labor and benefits amount flows to the  
3 division’s bottom line without a deduction attributable to Nodal projects. The  
4 total spending in 2009 is thus slightly higher than in 2008, but the budget  
5 attributions result in the percentage increase appearing much larger than it  
6 actually is. In fact, the \$4.5 million increase in the System Operations division is  
7 almost completely attributable to the amount of labor and benefits that, prior to  
8 Nodal Go-Live, was credited to the Nodal Program budget.  
9

10 **Q. HOW DID YOU DETERMINE COMPENSATION LEVELS INCLUDED**  
11 **IN THE 2009 ERCOT BUDGET FOR LABOR COSTS IN THE SYSTEM**  
12 **OPERATIONS DIVISION?**

13 A. For existing employees, existing salaries were used. For vacant or new positions,  
14 salaries were estimated by Finance based on the mid-point salary for the job  
15 grade. If the position is new and has not been assigned a job grade, it is slotted  
16 based on similar type positions and then reviewed in detail after a full position  
17 analysis is performed by Human Resources upon posting the position. Human  
18 Resources provides support to Finance to calculate the proper loading for benefits  
19 to be included in the ERCOT Budget. The benefit load is determined by prior  
20 year expenses and actuarial assumption of future expenses.  
21

22 **Q. COULD THE SYSTEM OPERATIONS DIVISION REDUCE THE**  
23 **NUMBER OF FTES BY HIRING CONSULTANTS?**

24 A. Yes, it is possible to reduce the number of new FTEs planned for 2009 by using  
25 consulting resources. However, doing so would cost more for those efforts which  
26 are considered ongoing. Conversely, hiring all FTEs is also an alternative,  
27 although also not cost-effective for work that is not ongoing. ERCOT has  
28 planned for a combination of FTEs and the targeted use of consultants to perform  
29 its responsibilities. ERCOT considers this a more cost effective, balanced  
30 approach versus using all consultants or hiring all FTEs.  
31

1 **Q. IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
2 **LABOR TO ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

3 A. Yes, the amount included in the 2009 budget for labor is reasonable to accomplish  
4 our current responsibilities, and our best estimate of the additional tasks that will  
5 arise after the division completes the transition to operating Nodal systems.  
6

7 **Q. DESCRIBE THE EXPECTED OUTSIDE SERVICES NEEDS FOR THE**  
8 **SYSTEM OPERATIONS DIVISION FOR 2009.**

9 A. System Operations' budget for outside services in 2009 is \$2,898,319. Of that  
10 amount, \$1,700,000 is attributable to the contract with Potomac Economics to  
11 provide Independent Market Monitor ("IMM") services as directed by the PUCT.  
12 The IMM is responsible for monitoring the wholesale electricity market in the  
13 ERCOT region, including ERCOT's operations that affect supply, demand, and  
14 the efficient functioning of the wholesale market. Management has determined  
15 that the funding for the IMM contract is housed in the System Operations division  
16 budget.

17 The outside services requested by the System Operations division that account for  
18 the remainder of the outside services budget are intended to provide automation  
19 tools necessary to maximize the productivity of division operations and a one-  
20 time contingency amount for staff augmentation to ensure smooth implementation  
21 of enhancements to the Nodal MMS system.  
22

23 **Q. PLEASE SUMMARIZE THE OUTSIDE SERVICES REQUESTED FOR**  
24 **THESE PURPOSES.**

25 A. In the automation category, System Operations requested funding to help develop  
26 an Electric Power Research Institute ("EPRI") display conversion standard.  
27 Currently, the Control Center creates and maintains information displays  
28 manually. Development of the EPRI standard would enable ERCOT to purchase  
29 a program to convert the NMMS displays to EMS. This would eliminate the need  
30 for display maintenance work (and the equivalent of .5 FTE), improve quality,  
31 and increase operator awareness.

1 The division also requires consulting expertise to assist with integration and  
2 continuing enhancement of the Common Information Model (“CIM”). The CIM  
3 is vital to ERCOT’s ability to manage model data flows through all EMMS  
4 systems and to prepare for future developments, both in the evolution of the  
5 ERCOT NMMS model and in the electric industry in general. CIM integration  
6 requires coordination between NMMS, EMS, MMS, and other ERCOT software,  
7 increasing the complexity of the task. Specialized consulting expertise is  
8 necessary to develop and refine tools that will make certain CIM works  
9 effectively. In addition to the technical consulting services, the division’s outside  
10 services budget includes ERCOT’s share of the funding of the EPRI CIM  
11 initiative, a project involving International Electro-technical Committee (“IEC”)   
12 Working Group members, ERCOT Market Participants, and other utility industry  
13 representatives from across the country. ERCOT’s involvement in the EPRI  
14 initiative will benefit ERCOT as an ISO, and assist Market Participants in the  
15 ERCOT region. CIM is the core of the network model, which is the driver of  
16 reliable system planning and operation, Congestion Revenue Rights (CRRs) and  
17 LMPs.

18  
19 **Q. WHAT IS THE POTENTIAL STAFF AUGMENTATION INCLUDED IN**  
20 **SYSTEM OPERATIONS’ OUTSIDE SERVICES BUDGET?**

21 A. The “walk-through” of the MMS system with ERCOT’s vendor in late 2007  
22 indicated that there were a number of enhancements to the MMS necessary to  
23 improve the usefulness of the information generated by MMS. During the System  
24 Operations deep dive process, management expected that these enhancements  
25 would be part of the vendor’s deliverables prior to Nodal Go-Live. Since that  
26 time, the enhancements have been removed from the Go-Live deliverables and  
27 included as a discretionary item in the 2009 capital projects budget. The System  
28 Operations division included an item in its outside services request in the event  
29 that staff augmentation is necessary to assist with data analysis and reporting prior  
30 to the implementation of the MMS enhancements. The staff augmentation may  
31 not be necessary if the MMS enhancements are completed in early 2009, or if

1 management determines that current staff is sufficient to perform the activities  
2 associated with completing the enhancements.

3  
4 **Q. HAS SYSTEM OPERATIONS TAKEN STEPS TO REDUCE ITS**  
5 **OUTSIDE SERVICES EXPENSES?**

6 A. Yes. The System Operations division reduced its outside expenses by 10.7%  
7 from the 2008 authorized amount. Management requests outside services only  
8 where in-house staffing levels or expertise are not able to meet a specific need or  
9 to meet a one-time need that is not ongoing. Moreover, of the amounts budgeted  
10 for outside services, excluding the IMM's fees, approximately 48 percent consists  
11 of the one-time contingency spending related to MMS enhancements. Division  
12 management will carefully consider the need for any temporary staff  
13 augmentation before committing that contingency amount.

14  
15 **Q. WHY DO YOU EXPECT TO USE OUTSIDE SERVICES TO PERFORM**  
16 **THESE TASKS RATHER THAN USING ERCOT EMPLOYEES?**

17 A. ERCOT uses outside services when it is not considered prudent to hire specific  
18 skills or talents on a permanent basis. This usually occurs when special, short-  
19 term efforts require specialized skills. ERCOT also uses consultants for project  
20 work that has scheduled end points and when necessary to ensure independence  
21 from ERCOT, for example, independent auditors.

22  
23 **Q. HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
24 **OUTSIDE SERVICES FOR THE SYSTEM OPERATIONS DIVISION?**

25 A. Generally, management determined that number by either (1) estimating the  
26 number of hours of outside services required for a given project or task, or (2) if  
27 contemplated as fixed fee services, estimating costs based on prior experience. If  
28 calculated based on a time and materials basis, we multiplied the hours by an  
29 average hourly rate based on ERCOT's past experience with paying personnel  
30 with the required skill sets and background to perform the task.

- 1   **Q.    IN YOUR OPINION, IS THIS A REASONABLE AMOUNT TO SPEND ON**  
2   **OUTSIDE SERVICES TO ACCOMPLISH THE SCHEDULED TASKS**  
3   **FOR 2009?**
- 4   A.    Yes, the amount included in the 2009 budget for outside services is reasonable to  
5   accomplish the division's tasks for 2009.  
6
- 7   **Q.    DESCRIBE THE NEED FOR AND BENEFITS OF THE EMPLOYEE**  
8   **EXPENSES INCLUDED IN THE BUDGET FOR THE SYSTEM**  
9   **OPERATIONS DIVISION.**
- 10  A.    The System Operations Division incurs necessary employee expenses as follows:  
11       (1)    Attendance and representation at meetings for the development and  
12               discussion of NERC and other industry standards affecting the ERCOT  
13               Region;  
14       (2)    Providing off-site system access for employees who must perform  
15               weekend or after-hours duties required to facilitate ERCOT processes and  
16               procedures. Such duties include, but are not limited to, special responses  
17               to specific Market Participant needs, emergency activities (such as major  
18               weather events), data and systems problems requiring immediate attention,  
19               system migrations (frequently on weekends), and special projects  
20               requested by management, the Commission or others;  
21       (3)    Expenses associated with events (such as major weather events) that  
22               require personnel, particularly those working in the Control Room, to be  
23               physically near ERCOT offices (*e.g.*, hotel expenses for operators during  
24               the 2007 ice storm emergency).
- 25       The System Operations division's employee expenses increase only slightly in the  
26       2009 budget over 2008 levels, an increase attributable to the division's need to  
27       add a new FTE (which adds a commensurate amount of employee expense to the  
28       division budget).
- 29  **Q.    DESCRIBE THE EXPECTED SYSTEM OPERATIONS RELATED**  
30  **CAPITAL PROJECTS FOR 2009.**

- 1 A. The 2009 budget for System Operations related capital projects is \$7,500,000.  
2 Projects on the list include already identified system requirements that will not be  
3 in place at Nodal go-live and requirements that are not yet specifically identified  
4 but are expected in 2009 as experience with Nodal operation is gained.  
5
- 6 **Q. WHAT ARE THE ALREADY IDENTIFIED PROJECTS THAT WILL**  
7 **NOT BE IN PLACE FOR NODAL GO-LIVE?**
- 8 A. These projects include the capability to use separate network models that more  
9 accurately reflect system conditions for the Day-Ahead and Real-time markets, to  
10 allow dynamically scheduled resources to submit incremental and decremental  
11 energy offer curves, to provide some required settlement and billing reports from  
12 the MMS and to modify the current Operator Training Simulator to simulate  
13 Nodal market operation.  
14
- 15 **Q. WHAT ARE THE PROJECTS WHOSE REQUIREMENTS ARE NOT YET**  
16 **SPECIFICALLY IDENTIFIED?**
- 17 A. These projects include developing Nodal market study tools for the IMM and  
18 Market System Operations staff, improvement to ERCOT and market user  
19 interfaces with the EMS, CRR auction. Outage Scheduler and NMMS, evaluation  
20 of ancillary service deliverability, improvements to weekly RUC studies, co-  
21 optimizing energy and ancillary services for self committed resources in the DAM  
22 and enhancements to data management in the MMS.  
23
- 24 **Q. WHAT ARE THE BENEFITS OF THESE PROJECTS?**
- 25 A. Each of these projects is needed either to achieve the full benefit to the market of  
26 Nodal systems or to enhance reliable operation of the electric grid by ERCOT.  
27
- 28 **Q. IN YOUR OPINION, IS THE BUDGET FOR THE SYSTEM**  
29 **OPERATIONS DIVISION REASONABLE AND SUFFICIENT TO**  
30 **ACCOMPLISH THE SCHEDULED TASKS FOR 2009?**

1     A.     Yes, based on our current best estimates of the 2009 requirements of the transition  
2           to new Nodal market systems.

3

4     **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

5     A.     Yes, it does.





# ERCOT Organizational Deep Dive

SYSTEM OPERATIONS

Kent Saathoff

Vice President of System Operations

May 2008

- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
410-Market Ops Support	25	28	26
422-Network Model	14	27	21
415-Op Standards	4	7	6
428-Control Center	53	46	45
405-SO DPO	4	4	4
421-Outage Coordination	12	13	12
423-Ops Planning	9	9	8
424-Advanced Network Apps	8	9	9
426-Ops Engineering	12	12	11
420-Ops Supp Admin	3	6	4
427-Op Training	9	9	9
402-SO Admin	4	3	3
<b>Total</b>	<b>157</b>	<b>173</b>	<b>158</b>

# Factors Driving Increased Staff Requirements

- **Some Functions Going Away in Zonal, but are Replaced in Nodal**
  - Balancing Energy/SPD (every 15 minutes) replaced by SCED (every 5 minutes)
  - Replacement Reserves replaced by RUC
- **Functions in Zonal Remain in Nodal**
  - Load Frequency Control
  - Transmission Congestion Management
  - Ancillary Service Procurement
  - Qualify A/S providers, Annual Black Start procurement and plan
  - Maintain Network Model
  - Market Participant Support
- **New Nodal Requirements**
  - Run Day-Ahead Energy Market
  - Next-day price verification/correction for 7,000 nodes every 5 minutes versus 4 zones every 15 minutes
  - Generate large numbers of network equipment models and equipment lists daily to support 90 day outage approval process versus one every two weeks
  - Increased Outage Coordination requirements in Nodal Protocols
  - More stringent reporting and accuracy requirements for state estimator
  - Order of magnitude increase in reporting and posted data will increase demand by Market Participants for Level 3 SME support
- **Increased scrutiny/audits by FERC/NERC/TRE as they increase staff**

- **System Operations will not be able to carry out it's duties to operate a reliable system in 2009 according to the Nodal Protocols at pre-Nodal project staffing levels.**
- **Detailed Task Analyses indicate an additional 16 staff over the 2008 Authorized level are needed. 2008 Authorized includes FTEs dedicated to Nodal Project development and implementation that will transition to Nodal operation in 2008.**
- **At this time System Operations would request approval of only one additional FTE over the 2008 Authorized level.**

# Asking for Fewer Staff Than Indicated in Task Analyses

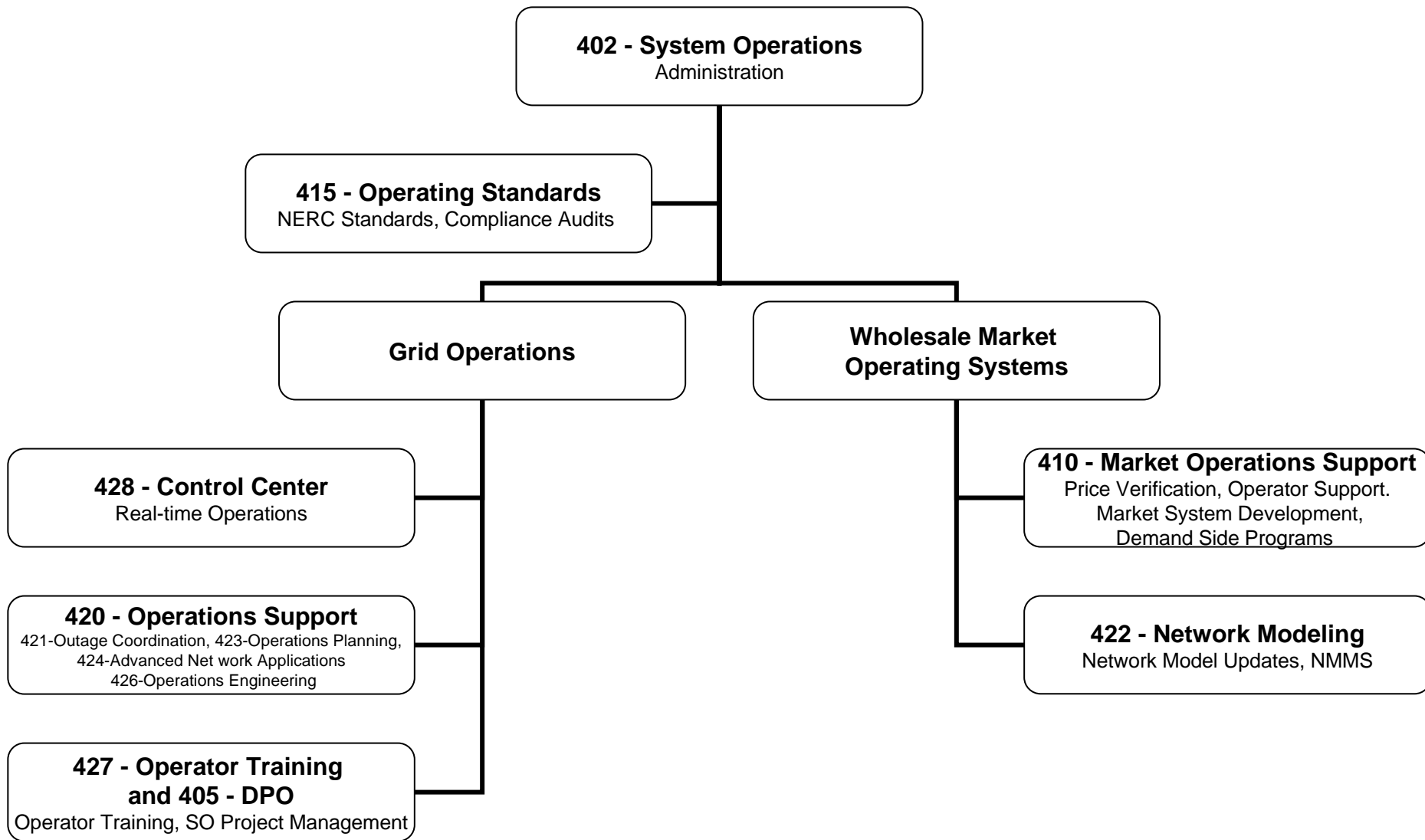
- **Uncertainty regarding Nodal system capabilities and performance**
- **Efficiencies may be gained by combining real-time grid and market system operating functions**
- **Outage Scheduling group requirements of Network Modeling group can be reduced if necessary**
- **Working overtime by staff can fill some gaps temporarily until additional staff or improved systems can be budgeted and implemented**
- **Increased demands by FERC/NERC/TRE may be overestimated**



# Organization Overview



# System Operations Organization



# System Operations – Core Functions

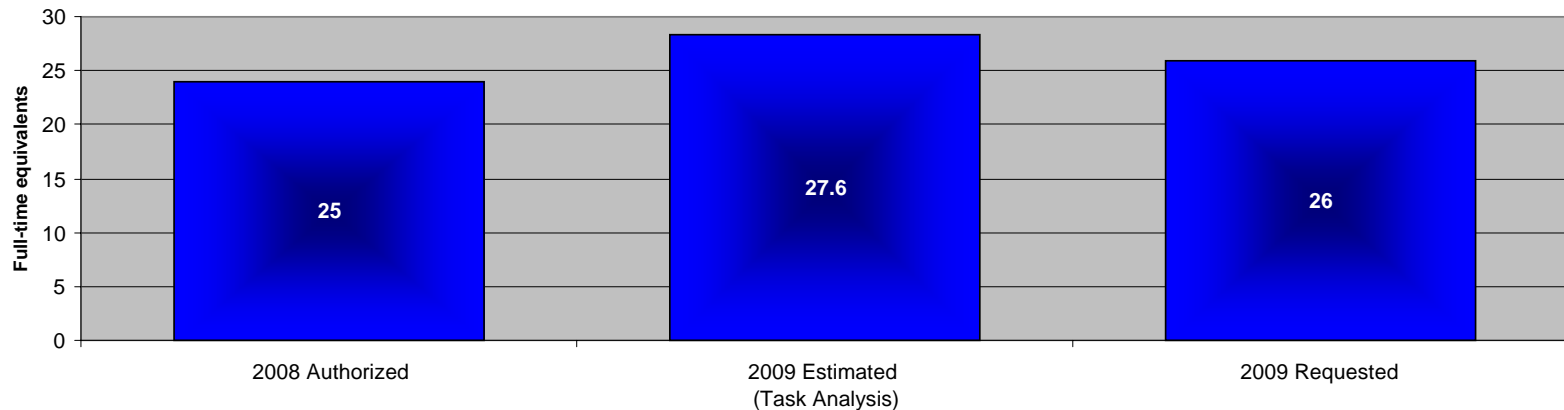
Grid Operations System Operations	Grid Operations Operations Support	Grid Operations Operator Training	Department Project Organization	Wholesale Market Operating Systems	Operating Standards
<ul style="list-style-type: none"> <li>•Post day ahead system conditions and A/S requirements</li> <li>•Run Day Ahead A/S markets and RUC</li> <li>•Run hour-ahead studies and SASM</li> <li>•Input transmission limits</li> <li>•Run Real-time Contingency Analysis</li> <li>•Adjust units to manage transmission congestion</li> <li>•Monitor System Frequency and Regulation deployment</li> <li>•Monitor SCED</li> <li>•Deploy units as needed to maintain regulation and 60 Hz</li> </ul>	<ul style="list-style-type: none"> <li>•Approve transmission facility outage requests</li> <li>•Develop mitigation plans if needed</li> <li>•Operational Load forecasting</li> <li>•Develop future operations business requirements</li> <li>•Presentations/studies for market participants</li> <li>•Qualify A/S providers, Annual Black Start procurement and plan</li> <li>•Provide real-time technical operational support to System Operators</li> <li>•Conduct special studies to mitigate real-time events</li> <li>•Maintain and tune State Estimator, TSA/VSA</li> <li>•Develop business requirements for enhancements</li> </ul>	<ul style="list-style-type: none"> <li>•Develop and deliver training for System Operators</li> <li>•Maintain and administer NERC CEH program for ERCOT</li> <li>•Operator Training Simulator (OTS)</li> <li>•Maintain and update OTS</li> <li>•Develop and implement OTS training scenarios</li> </ul>	<ul style="list-style-type: none"> <li>•Manage SO Capital Projects</li> </ul>	<ul style="list-style-type: none"> <li>•Run Day-Ahead Market (DAM)</li> <li>•Evaluation of system operations affect on prices</li> <li>•Develop business requirements for market systems (nodal)</li> <li>•Presentations/studies for market participants</li> <li>•Administer price corrections</li> <li>•Support System Operators on real time market systems</li> <li>•Qualify LaaRs</li> <li>•Develop demand response programs with PUCT/Stakeholders</li> <li>•Keep network model updated</li> <li>•NMMS development and implementation</li> </ul>	<ul style="list-style-type: none"> <li>•Monitor and actively participate in development of NERC operating reliability standards</li> <li>•Serve as point of contact for all FERC/NERC/TRE audits of ERCOT System Operations</li> <li>•Assist SO management in ensuring compliance with NERC Standards and ERCOT Protocols</li> </ul>



# Task Analysis

## **Market Operations Support - Department 410**

# 410 – Market Operations Support Headcount Overview

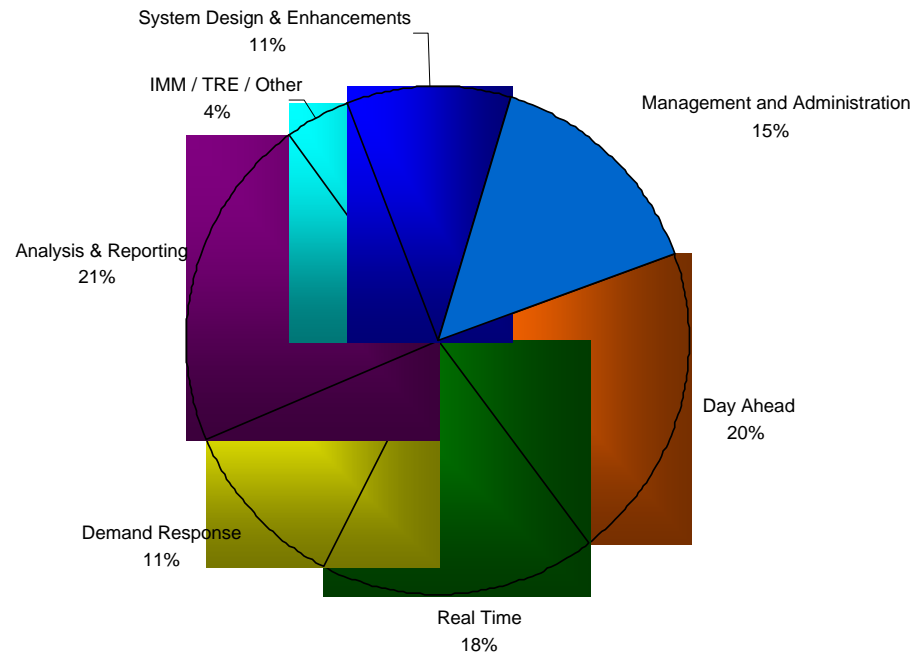


## Summary Points

1. Today we have a Day-ahead Ancillary Service Market: NODAL Requirement adds a Day Ahead Energy Market and the requirement to co-optimize Ancillary Service, Energy and Congestion Revenue Rights (CRRs). This requirement has never been done before.
2. Real time Price validation: Currently produce 1-4 prices every 15 minutes: NODAL will produce approximately 7000 Locational Marginal Prices (LMPs) every 5 minutes which require validation/correction before 16:30 the next day. The volume of data created increases along with a tighter timeline to verify prices.
3. Replacement Reserve Service (RPRS) Executes once a day now: Reliability Unit Commitment will require a Week ahead study every day, a day ahead study every day, and 24 hourly studies every day.
4. Today we validate one Network Model every 2 weeks, for NODAL, the Market management system will require 2 validated models every day.
5. The 2009 estimates are based on basic assumptions regarding system designs and performance. Market Operations won't be able to provide more accurate numbers until systems and processes are integrated and tested.

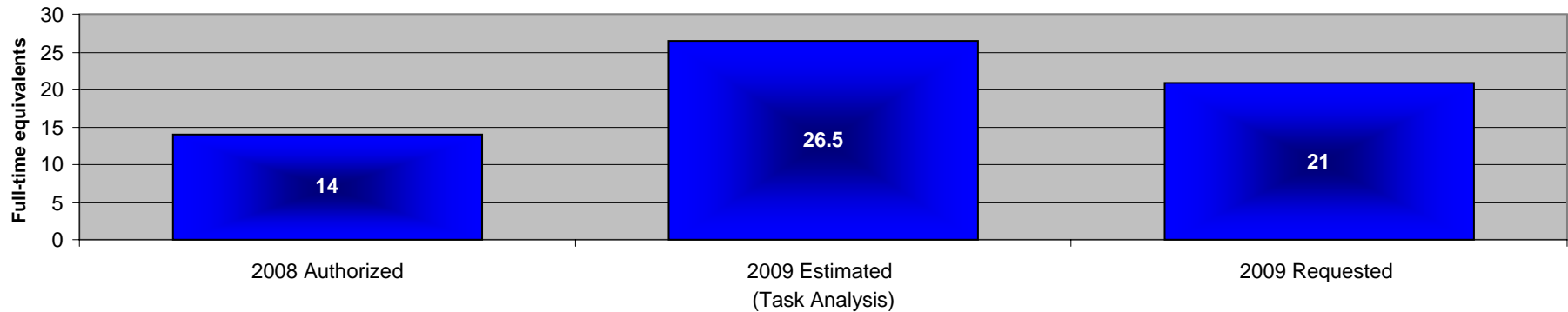
**Asking for two fewer people than Task Analysis indicates due to these uncertainties.**

# 410 – Market Operations Support Allocation by Function



## **Network Modeling - Department 422**

# 422 – Network Modeling Headcount Overview



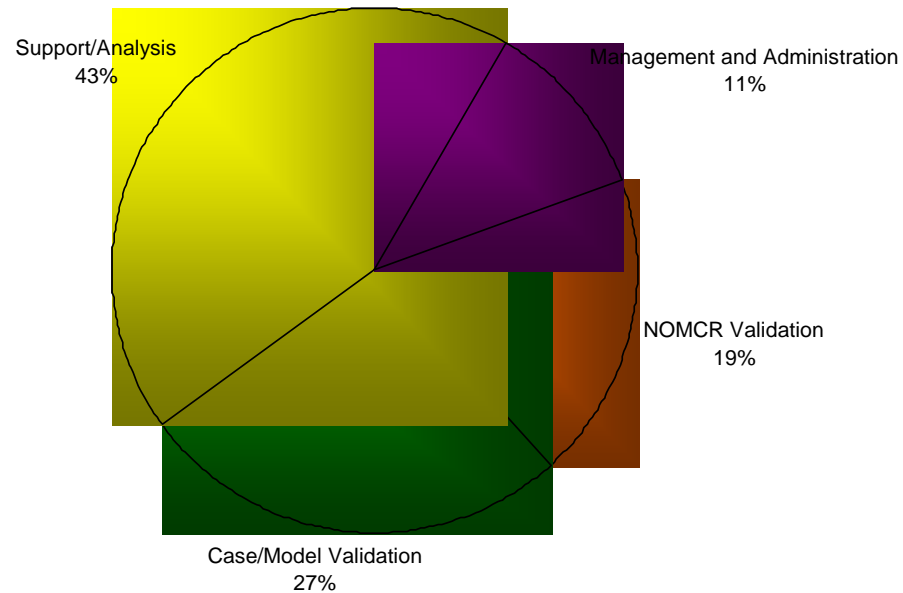
## Summary Points

1. Substantially increased Protocol requirements: Example, Today Network Model Management System (NMMS) produces 1 network model and 1 case every 2 weeks. New Requirement: 114 models and 8 cases per day. A case takes 2 to 3 hours to create.
2. NODAL will significantly Increase visibility and impact of network modeling.
3. There will be a increased demand for analysis and support.

**Asking for 6 fewer FTEs than indicated by Task Analysis due to unknown increase in efficiency of NMMS and already large (50%) increase in requested staffing level.**



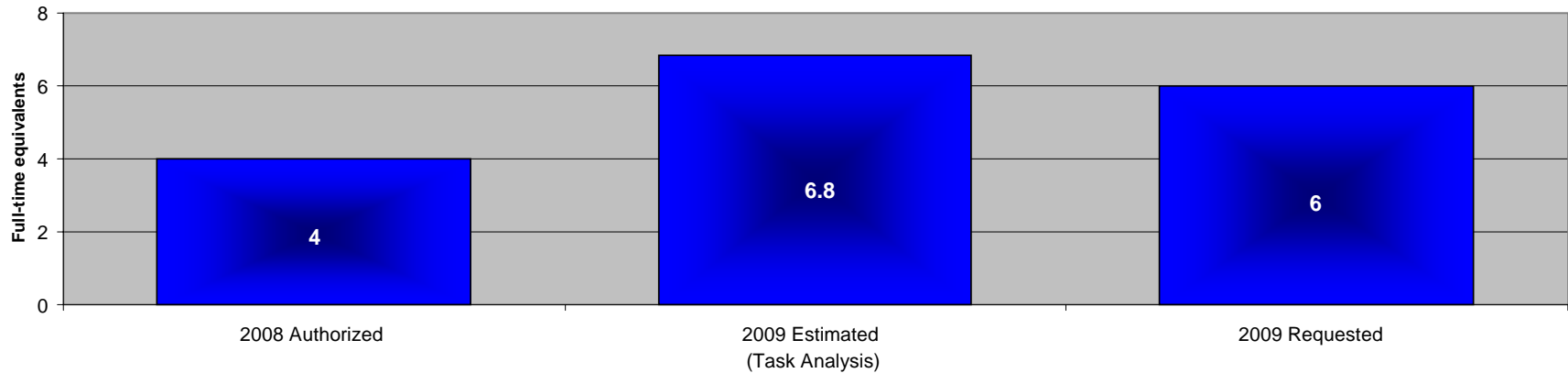
# 422 – Network Modeling Allocation by Function



## **Operating Standards - Department 415**

# 415 – Operating Standards

## Headcount Overview

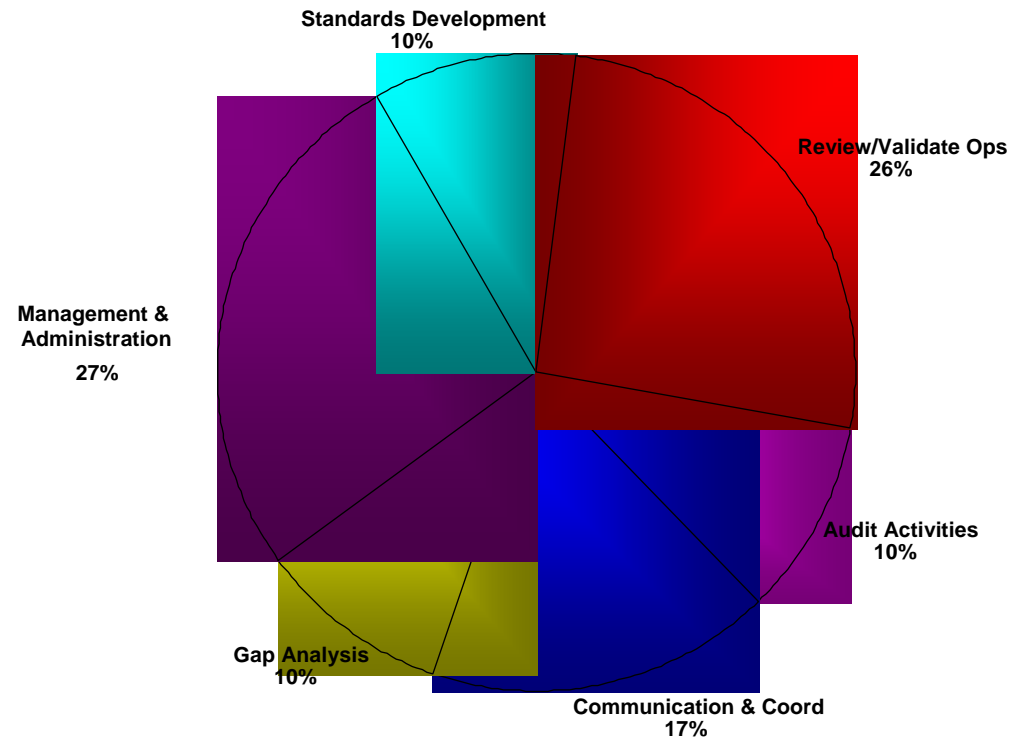


## Summary Points

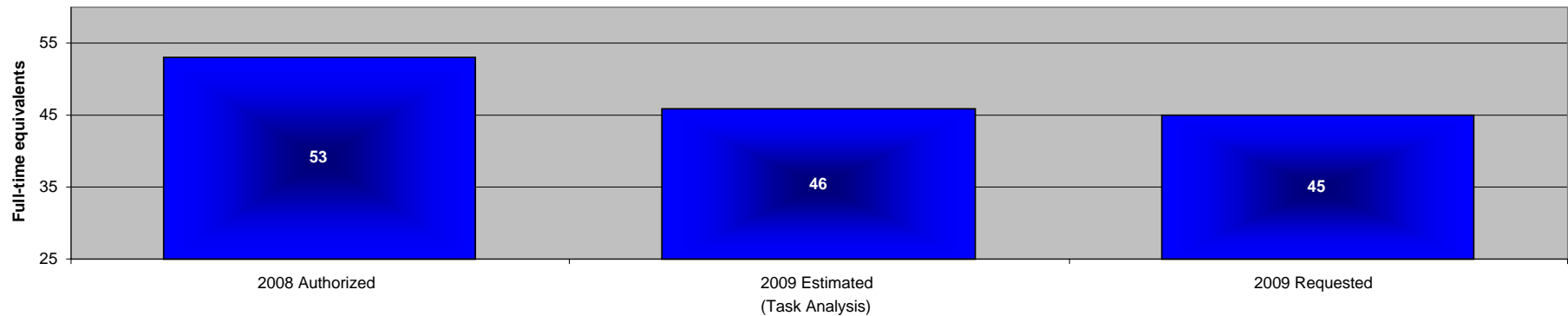
1. The Operating Standards Department was formed in late 2006 with transfers from other SO Departments.
2. The functions of the department will be the same for Nodal as for Zonal
3. Nodal will have some impact because there are more requirements applicable to System Operations in the Nodal Protocols and Operating Guides; however the functions are not expected to change

**Requesting one less FTE than indicated by Task Analysis due to some uncertainty regarding 2009 actual increase in requirements in this department and ability to draw on assistance from other departments, if available.**

# 415 – Operating Standards Allocation by Function



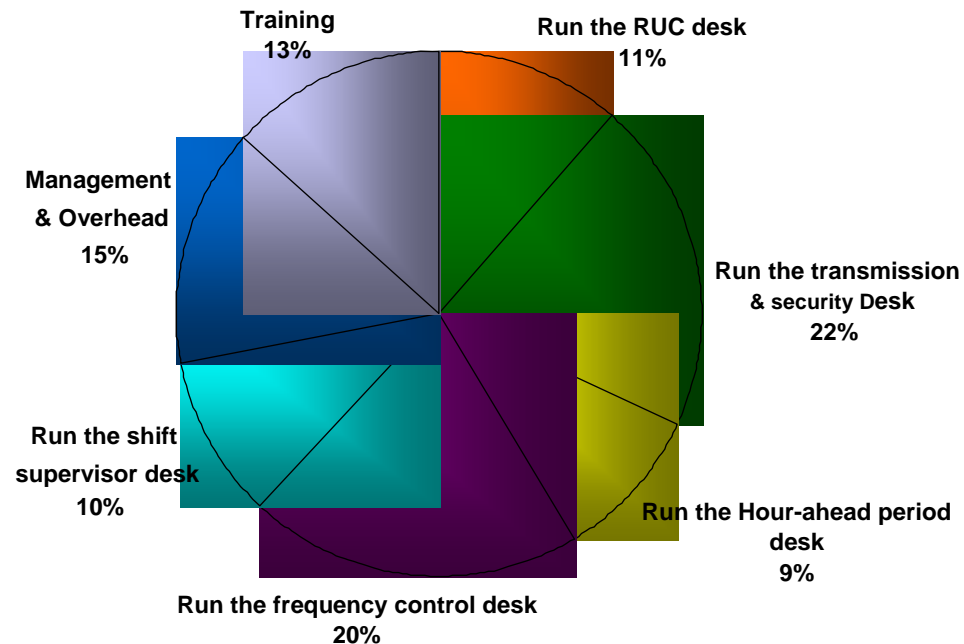
## **Control Center - Department 428**



## Summary Points

- ❑ 2008 authorized numbers reflect increased staffing required to support nodal market testing while carrying on normal zonal operations
- ❑ Plan to eliminate a back-up operator in order to bring headcount from 50 (including 48 operators) to 44 (including 42 operators) in 2009
- ❑ Department 428 would like to add one additional FTE related to departmental administration, bringing the final steady-state headcount from 44 to 45
- ❑ **Requesting one less FTE than Task Analysis indicates due to uncertainties in assumptions necessary for analysis. Grid Operations will handle the any deficit through overtime and task prioritization.**

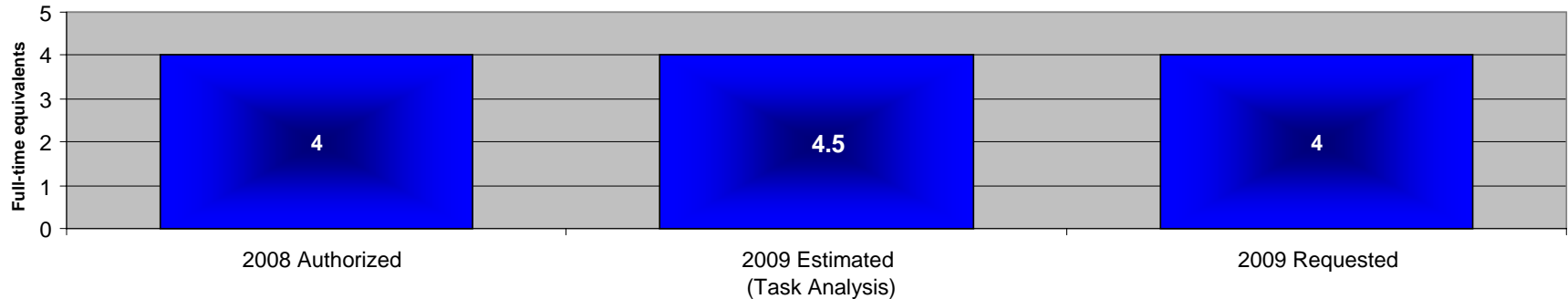
# Dept 428 – Control Center Allocation by Function



## **SO Divisional Project Org - Department 405**



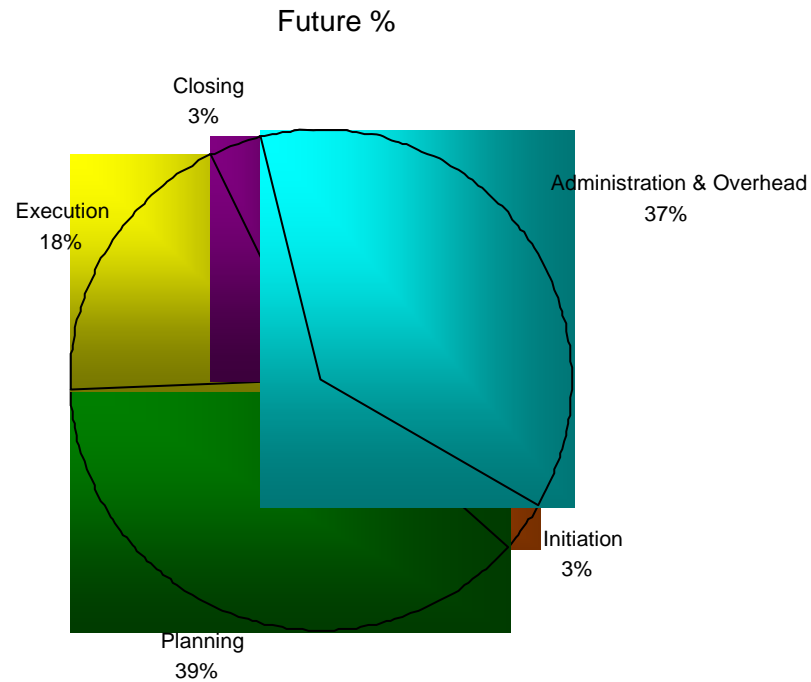
# Dept 405 – Divisional Project Org (DPO) Headcount Overview



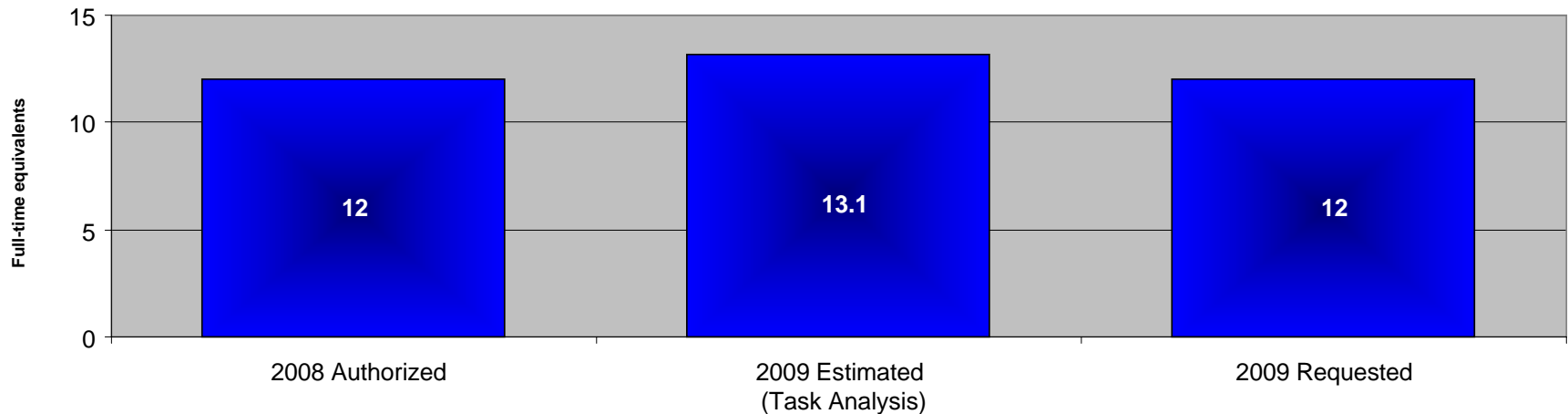
## **Summary Points**

- ❑ The nodal market design will likely change the content of the projects in the System Operations area but should not impact the number of projects, with the possible exception of stabilization period for the first year past go-live
- ❑ System Ops DPO will address any resource shortfalls using contractors and overtime charged to projects.
- ❑ Current estimates are based on the assumption of 10 average sized projects in the next year.

# Dept 405 – Divisional Project Org (DPO) Allocation by Function



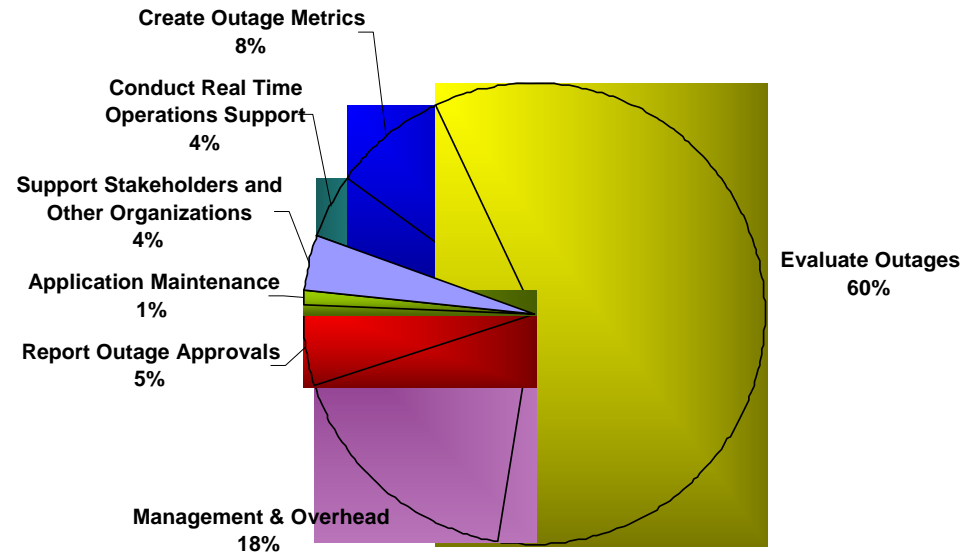
## **Outage Coordination - Department 421**



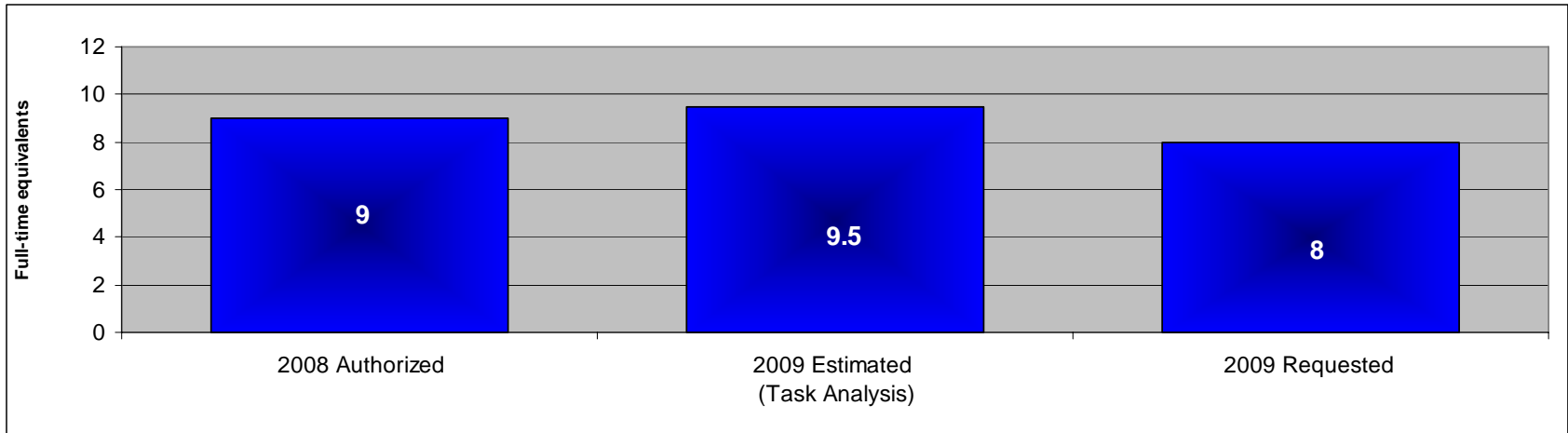
## Summary Points

- ❑ Major functionality and services of the group will remain the same
- ❑ New requirements based on the protocols
  - ❑ Over 90-Day outage analysis is a new requirement requiring additional studies (Section 3.1.5.3)
  - ❑ Gap Analysis is a new requirement to account for Simple Outages (Section 3.1.5.12, 3.1.6.8 and 3.1.6.6)
  - ❑ New metric reporting and analysis as per section 8 of the Nodal Protocols
- ❑ **Requesting one less FTE than Task Analysis indicates with expectation that even with additional tasks, new Outage Scheduler is expected to be enhanced over current Outage Scheduler and more efficiency may be achievable.**

# Dept 421 – Outage Coordination Allocation by Function



## **Operations Planning - Department 423**

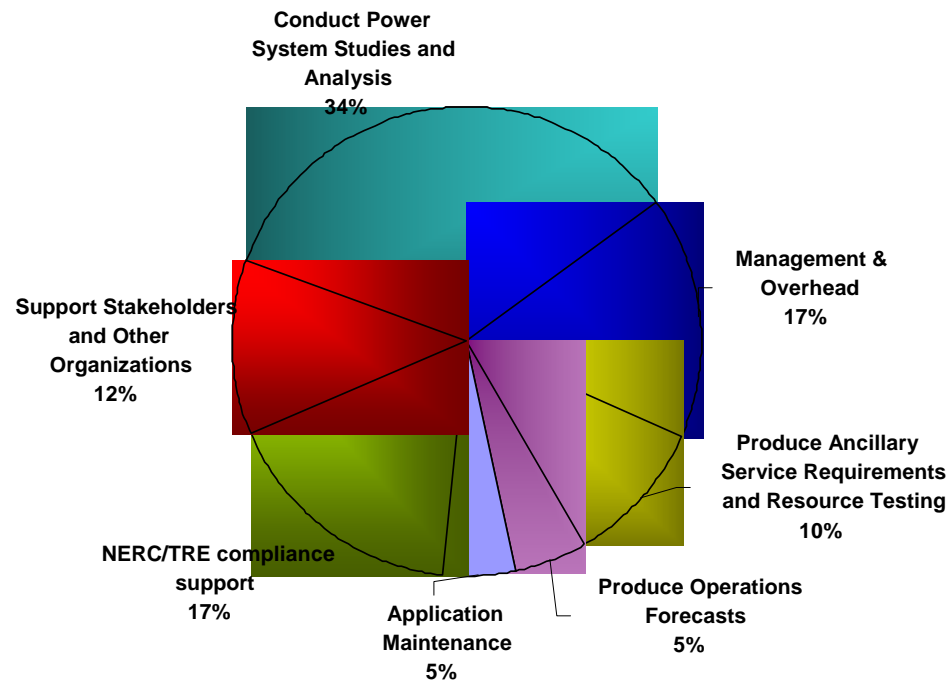


### Summary Points

- ❑ Increased complexity in Load Frequency Control Applications (SCED interface)
- ❑ New hourly RUC application increases opportunity for support 24 fold.
  - ❑ Currently (RPRS) running once per day
  - ❑ RUC will be running once per hour
- ❑ Increase demand in the NERC standard requirements and additional load on this group in the compliance area
- ❑ **Requesting one less FTE than Task Analysis indicates due to uncertainty on NERC/TRE compliance requirements which accounts for 1.5 FTE in Task Analysis**

# Dept 423 – Operations Planning

## Allocation by Function

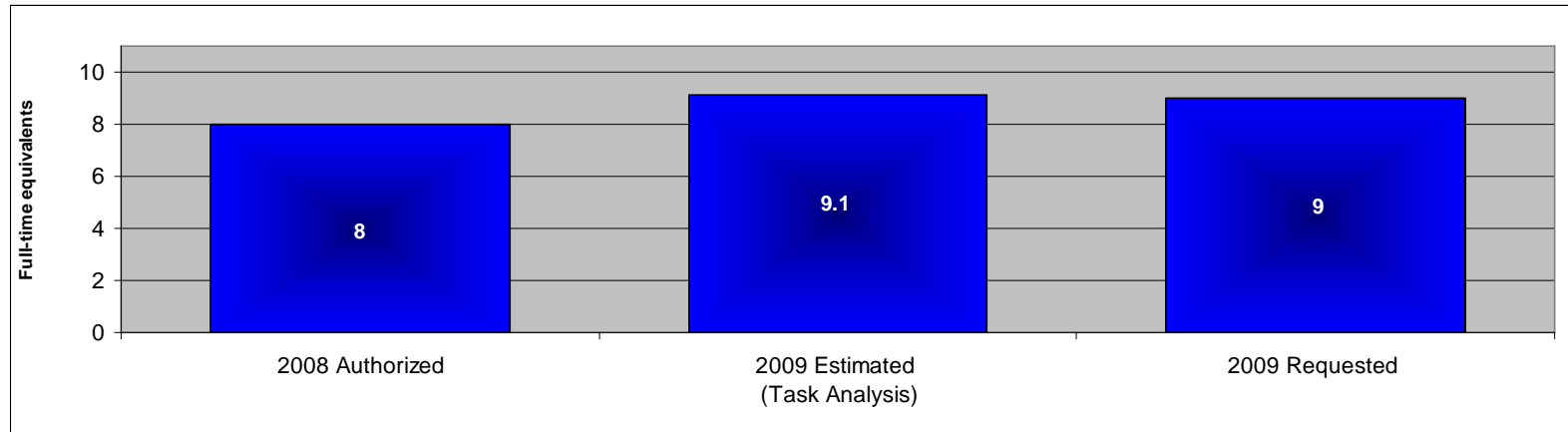




## **Advanced Network Applications - Department 424**

# Dept 424 – Advanced Network Applications

## Headcount Overview

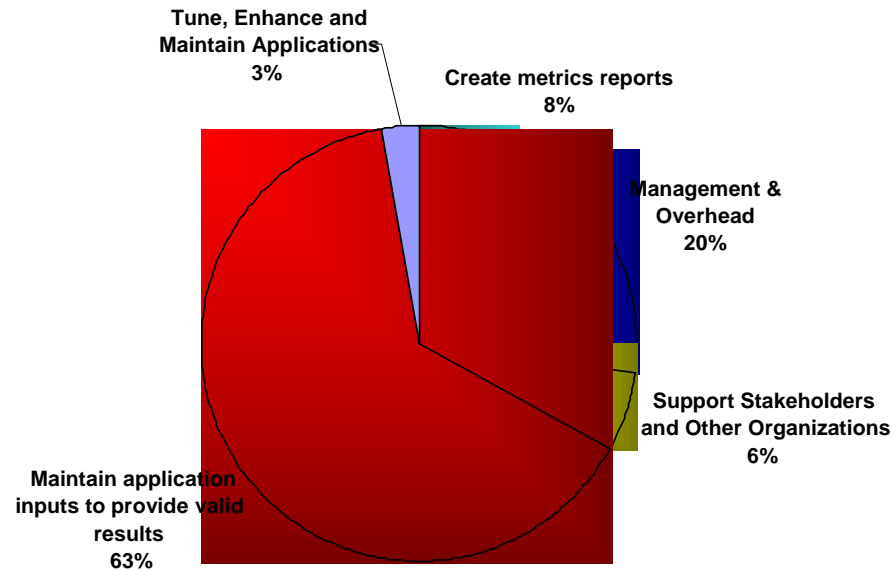


## Summary Points

- ❑ Current head count:
  - ❑ After Nodal
    - ❑ New Telemetry and SE performance requirements adds to support Requirement
    - ❑ Market LMP accuracy depending on the quality of the solution of the EMS Adv. Netw. Apps.
    - ❑ New business process of multiple model loads/week requires significantly more testing.
    - ❑ New reporting on State Estimator and critical applications (Section 3.10 of Protocols)
    - ❑ New applications (TSAT) to be maintained
    - ❑ The State Estimator Solution is critical for the grid and market operations

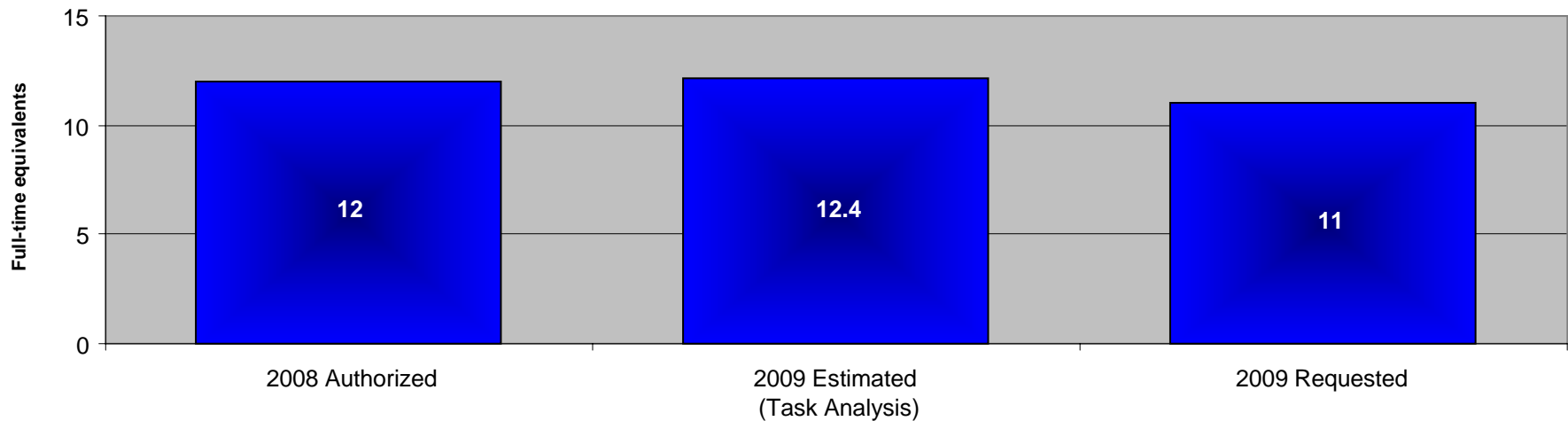
# Dept 424 – Advanced Network Applications

## Allocation by Function



## **Operations Engineering - Department 426**

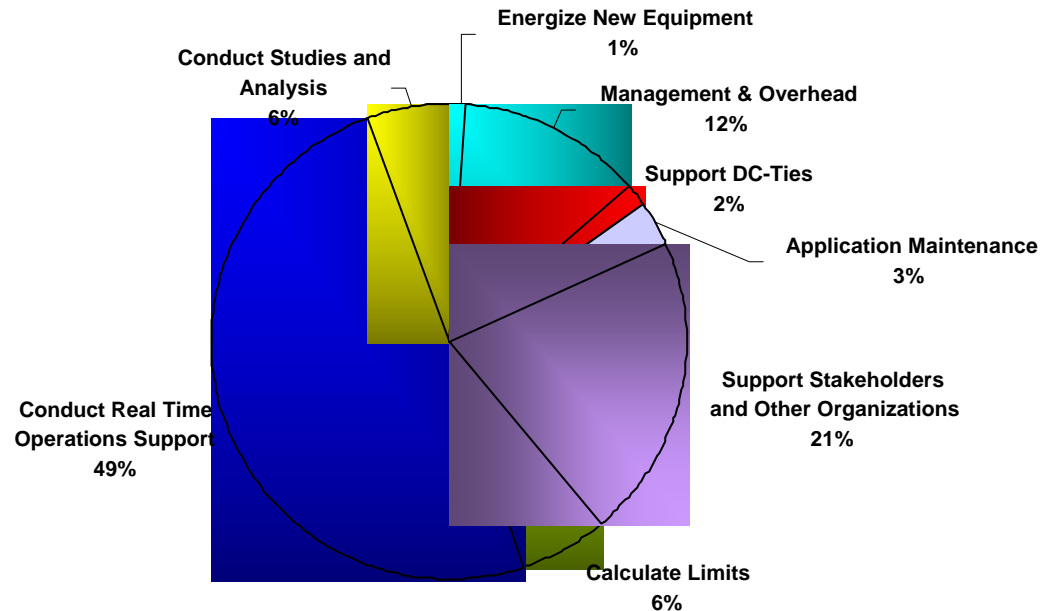
# Dept 426 – Operations Engineering Headcount Overview



## Summary Points

- ❑ This group provides engineering support to the Control Room
- ❑ Reorganized to provide 7x24 engineering Support Shift (6 engineers) in the Control Room to be established before Nodal
  - ❑ More functions and more critical monitoring of applications in the Nodal
- ❑ **Requesting one less FTE than indicated by Task Analysis due to some uncertainty regarding 2009 actual increase in requirements in this department and ability to draw on assistance from other departments, if available.**

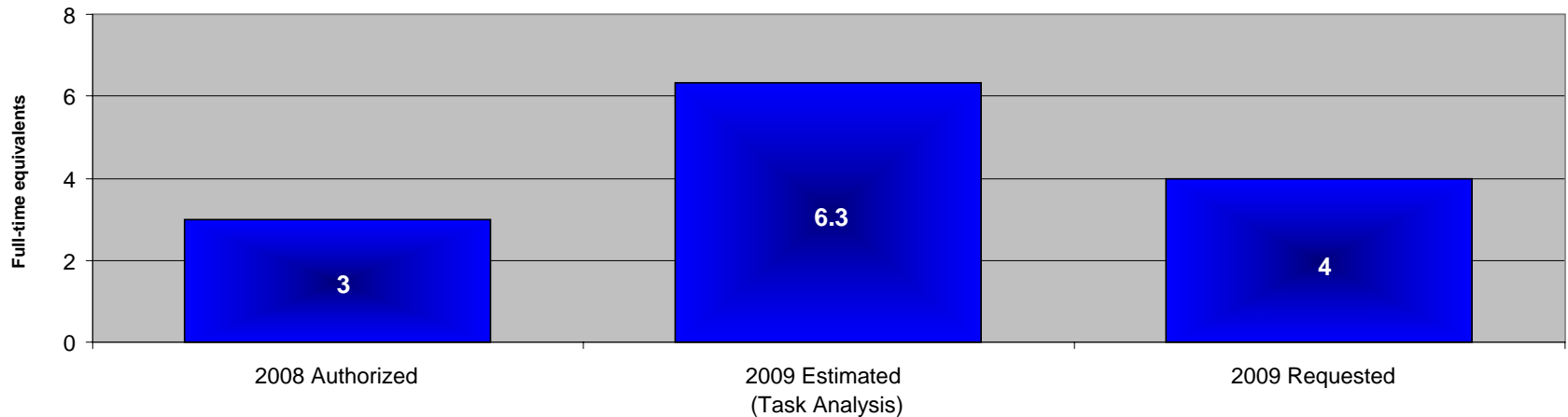
# Dept 426 – Operations Engineering Allocation by Function



## **Operations Management & Administration - Department 420**

# Dept 420 – Operations Administration

## Headcount Overview



### Summary Points

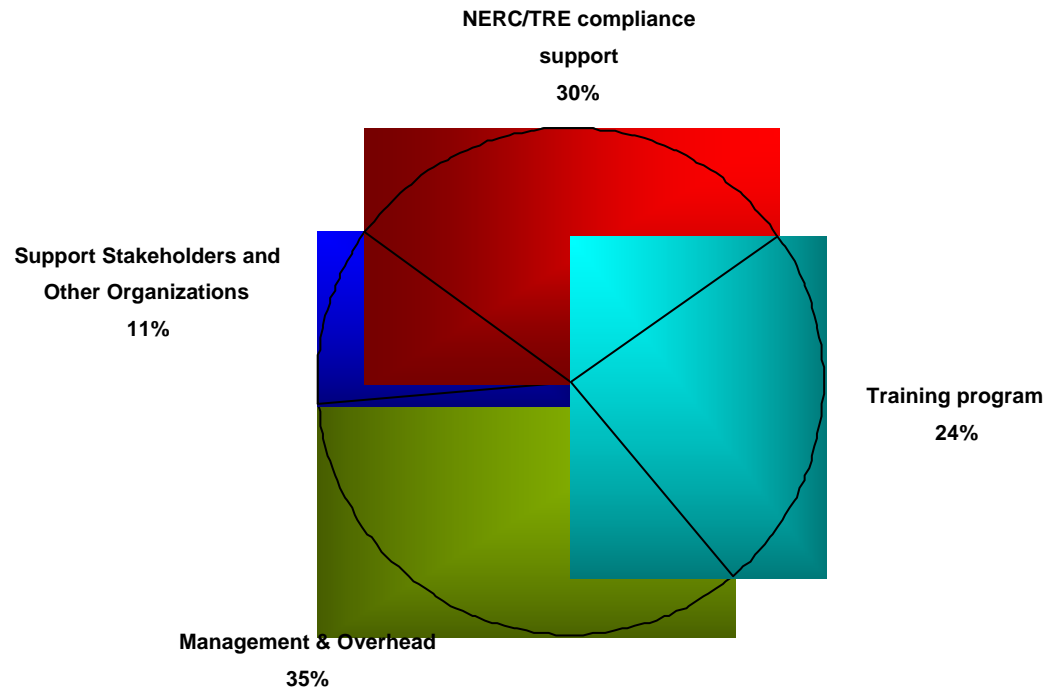
- ❑ Currently the department consists of a manager, an admin assistant and an Engineer/Analyst Supporting all other Operations Support departments
- ❑ In 2009, Task Analysis includes:
  - ❑ a training program, that includes 2 additional Junior Engineers in the department to address difficulties in hiring and training needs
  - ❑ additional 2 FTEs to support the NERC standards, TRE requests, FERC and stake holders data requests, participation in NERC drafting teams and participation in ERCOT Compliance program

**Requesting two less people than Task Analysis. Will reduce Junior Engineer program, NERC Standard/Compliance support from this department or both if necessary**



# Dept 420 – Operations Administration

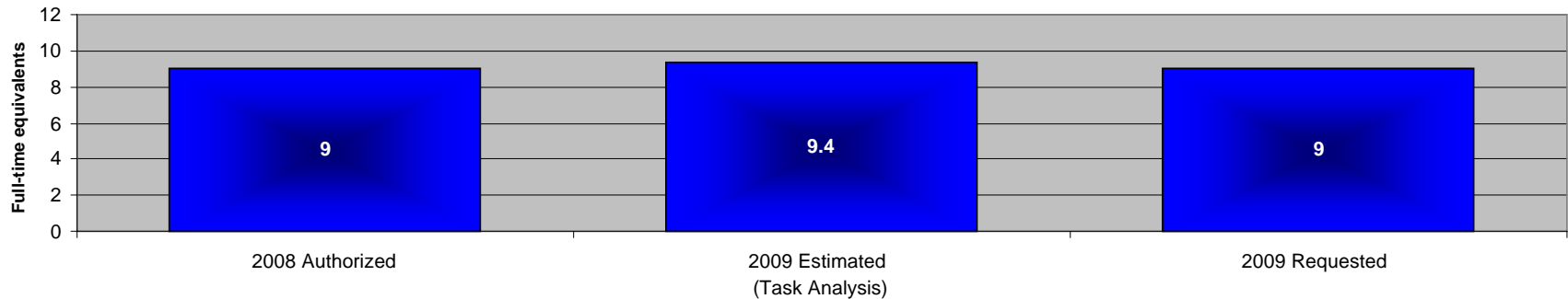
## Allocation by Function



## **System Operations Training - Department 427**

# Dept 427 – Operator Training

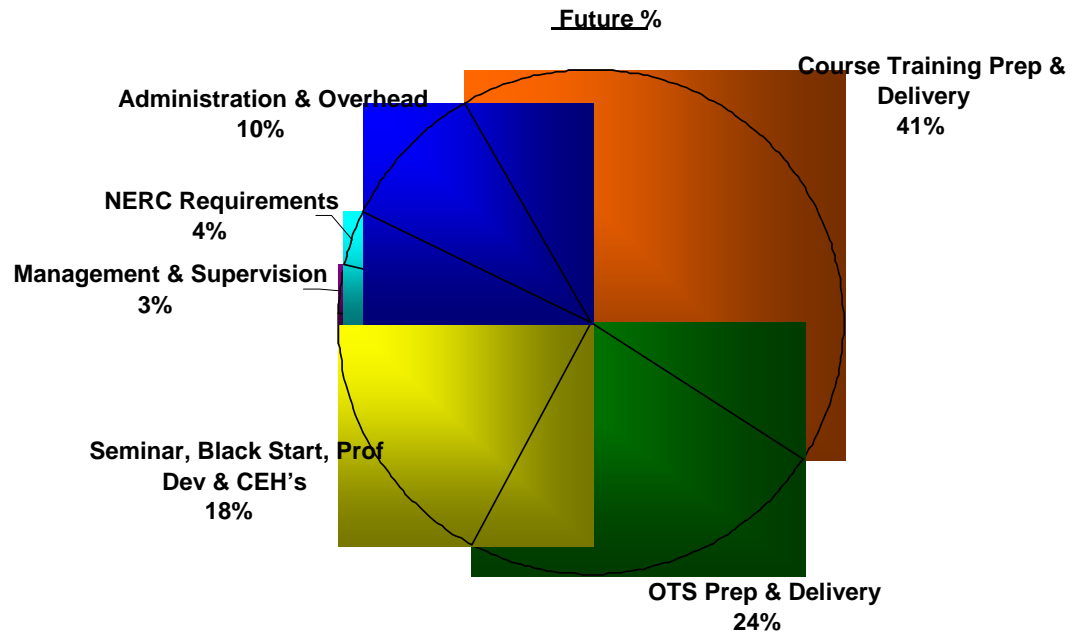
## Headcount Overview



### Summary Points

- ❑ The nodal market design changes the content of the training but does not impact the overall volume of training required
  - ❑ Six 30-hour class room training cycles per year
  - ❑ 6- Week Annual Seminar
  - ❑ 4- Week Annual Black Start
  - ❑ Six 6-hour Operator Training Simulator (OTS) training cycles per year
- ❑ Operator Training will use overtime and task prioritization to handle any resource deficit from current approved headcount and predicted 2009 estimated work load

# Dept 427 – System Operations Training Allocation by Function



**DIRECT TESTIMONY OF**

**NANCY CAPEZZUTI**

**VICE-PRESIDENT OF HUMAN RESOURCES AND  
ORGANIZATIONAL DEVELOPMENT**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF  
THE ERCOT SYSTEM ADMINISTRATION FEE**

1 **DIRECT TESTIMONY OF NANCY CAPEZZUTI**

2  
3 **I. INTRODUCTION AND WITNESS QUALIFICATIONS**

4  
5 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

6 A. My name is Nancy Capezzuti. My business address is 7620 Metro Center Drive,  
7 Austin, Texas 78744.  
8

9 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

10 A. I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
11 Vice-President of Human Resources and Organizational Development. I joined  
12 ERCOT in June 2006.  
13

14 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS VICE-PRESIDENT**  
15 **OF HUMAN RESOURCES AND ORGANIZATIONAL DEVELOPMENT.**

16 A. I am responsible for providing support on all aspects of the management of  
17 ERCOT's employees. My specific responsibilities include: providing direction  
18 and support to ERCOT in the areas of employee relations, compensation  
19 programs, benefit programs, and regulatory compliance; surveying and analyzing  
20 salary, wage and benefits data; analyzing and evaluating jobs, including the  
21 development of recommendations for job classifications; creating and  
22 implementing wage strategies to maintain good employee relations; advising  
23 ERCOT managers on determining appropriate wage increases and market  
24 adjustments for their employees; managing employee complaints and internal  
25 complaint procedures; managing delivery of manager and employee training;  
26 ensuring compliance with all governmental regulations and statutes affecting  
27 employment; designing and implementing employee benefit plans; managing  
28 ERCOT's recruitment, interviewing and selection of job candidates; and  
29 conducting new employee and consultant orientation.  
30  
31

1   **Q.   PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
2   **EXPERIENCE.**

3   A.   I have served as Vice-President of Human Resources and Organizational  
4       Development at ERCOT since June 2006. I have spent most of my career in the  
5       human resources field, and hold an active certification as a Senior Professional in  
6       Human Resources. Prior to joining ERCOT, I was Vice-President of Human  
7       Resources for Esoterix, Inc., an international healthcare company specializing in  
8       laboratory services. I have also served as the Senior Vice President of Human  
9       Resources for Southern Union Company, and was President of two Southern  
10      Union subsidiary operations. I have also worked as President of ConTigo, a call  
11      center operation, and EntergyWorks, a web-based technical training organization.  
12      I am a long-time member of the Society for Human Resource Management, the  
13      world's largest professional association devoted to human resource management.  
14      I am also a member of the Austin Human Resource Management Association. I  
15      have been active in the ERISA council, American Society of Training and  
16      Development, National Association of Stock Plan Professionals, and Rotary  
17      Austin. I have also served on the Board of Directors for Capital Credit Union and  
18      Women of Austin. I graduated, with honors, from Texas State University with a  
19      Bachelors Degree in Math Education and a Masters Degree in Counseling, with  
20      an emphasis in Business Psychology.

21

22   **Q.   HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITY**  
23   **COMMISSION OF TEXAS?**

24   A.   No, I have not.

25

26   **Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

27   A.   My testimony will provide the following:

- 28       • a discussion of ERCOT's current employee headcount;
- 29       • a description of ERCOT's "deep dive" task and staffing analysis used to
- 30       prepare the 2009 budget;
- 31       • a summary of ERCOT's 2009 labor needs;

- a description of ERCOT's employee hiring process;
- a description of and support for ERCOT's employee compensation, benefits structure, and particular employee expenses;
- a description of ERCOT's efforts to attract and retain the talent necessary to meet its specialized labor needs; and
- A report on the "deep dive" analysis of the ERCOT Human Resources department.

**Q. WHAT EXHIBITS, SCHEDULES, AND WORKPAPERS ARE YOU SPONSORING?**

A. I am sponsoring the following

- (1) Exhibit NC-1: ERCOT organizational chart.
- (2) Exhibit NC-2: Description of ERCOT employee benefits.
- (3) Exhibit NC-4: "Deep dive" task and headcount analysis for the Human Resources & Organizational Development department.

**Q. WERE THE EXHIBITS THAT YOU ARE SPONSORING PREPARED BY YOU OR UNDER YOUR SUPERVISION AND IS THE INFORMATION INCLUDED IN SUCH SCHEDULES AND WORKPAPERS TRUE AND CORRECT?**

A. Yes.

## **II. ERCOT'S CURRENT AND ANTICIPATED LABOR FORCE**

**Q. PLEASE DESCRIBE ERCOT'S CURRENT LABOR FORCE.**

- A. As of May 12, 2008, ERCOT had 625 full-time employees ("FTEs"). Generally, the total number of ERCOT employees can be grouped into four major categories:
- Corporate Administrative Functions (including Accounting, Finance, Human Resources, Internal Audit, Legal, Project Management, Security) – 18.4%;
  - Information Technology – 32.2%;



- Market Operations – 22.4%; and
- System Operations and Planning – 27%.

Of ERCOT's total employee headcount, 489 are salaried employees who are exempt from overtime. The remaining 136 employees are non-exempt and qualify for overtime under the Fair Labor Standards Act. The workforce consists of 9 officers, 18 directors, and 53 managers. Over 80% of the workforce is made up of professional level employees with college degrees or employees with specialized or technical skills.

**Q. HOW IS THE ERCOT WORKFORCE ORGANIZED?**

A. Exhibit NC-1 sets forth the current organizational chart for ERCOT to the manager level.

**Q. PLEASE DESCRIBE ERCOT'S 2009 EMPLOYMENT NEEDS.**

A. As reflected in the 2009 ERCOT Budget, which was prepared by ERCOT staff and approved by the ERCOT Board of Directors, ERCOT will need 753 FTE positions in 2009. This represents an addition of 50 positions in addition to the FTEs authorized by the 2008 ERCOT Budget. The headcount needs for each of ERCOT's divisions and departments are detailed in the testimony of the ERCOT officers responsible for them. For budgeting and revenue requirements purposes, ERCOT recognizes that vacancies occur and time is required to recruit new employees. Therefore, ERCOT reduces the budgeted labor expenses by seven (7) percent to avoid over-recovery for staffing. A seven percent reduction in expenses is reasonable and consistent with the approach approved in previous ERCOT Administrative Fee cases.

**Q. HOW WERE ERCOT'S 2009 LABOR NEEDS DETERMINED?**

A. As part of its preparation of the 2009 budget, ERCOT developed a business process model to prepare for the transition to a Nodal environment. Tasks and work processes were reviewed end-to-end based on ERCOT management's

1 expectations of what will be required to implement Nodal functionality and  
2 maintain compliance with the ERCOT Protocols and other requirements.  
3 Workflow was reviewed, including hand-offs between departments. Once the  
4 processes were built and reviewed, a very detailed task analysis was performed to  
5 determine staffing needs. This functional review of the organization is known as  
6 the “deep dive” process. The deep dive documentation generated by ERCOT’s  
7 divisions was reviewed and approved by each department director, then was  
8 subject to further review by the officers responsible for each of ERCOT’s major  
9 divisions. The review process culminated in the preparation of formal deep dive  
10 materials covering the entire organization. The materials developed in the “deep  
11 dive” process enabled ERCOT’s officers to consider the necessity of each FTE,  
12 identify and eliminate duplication, and facilitate maximum labor productivity  
13 throughout the ERCOT organization. The task analysis has been constantly  
14 reviewed as managers’ understanding of the consequences of Nodal  
15 implementation has progressed. The task analysis also was refined to reflect new  
16 regulatory requirements and other business needs that were not considered when  
17 the process began.

18  
19 **Q. HOW WERE THE LABOR COSTS ASSOCIATED WITH ERCOT’S 2009**  
20 **LABOR NEEDS DETERMINED?**

21 A. The labor costs included in the 2009 ERCOT Budget were primarily determined  
22 by using actual salaries for existing employees and the average or median salary  
23 for the particular job grade for new and vacant positions. All positions authorized  
24 in the budget, assumed an adjustment of three (3) percent to account for merit  
25 increases. Due to the tight market demand for Power Engineers and other key  
26 personnel an additional two (2) percent was assumed for promotions and market  
27 adjustments.

28  
29 **Q. DID ERCOT WORK WITH ANY OUTSIDE CONSULTANTS TO**  
30 **DEVELOP ITS LABOR COST ASSUMPTIONS?**

1 A. Yes. In late 2006 and early 2007, Mercer Consulting performed a full review of  
2 the appropriate compensation slotting for each position at ERCOT. Mercer also  
3 assisted ERCOT in the development of a revised compensation structure (*i.e.*, pay  
4 grades) and developed a revised compensation strategy and structure for  
5 maintaining the market-based salary structure. Mercer used information from  
6 three customized surveys, industry specific surveys, and nationally recognized  
7 surveys to provide the benchmark information. With the assistance of outside  
8 actuaries, the 2009 benefits components for the employees were estimated for  
9 budget purposes. The total of the salary and benefits was then included in the  
10 2009 Budget as the labor cost.

11

12 **Q. ARE ERCOT'S 2009 LABOR COST ASSUMPTIONS CONSISTENT**  
13 **WITH PRIOR COMPENSATION STUDIES CONDUCTED FOR ERCOT?**

14 A. Yes. The salary structure proposed by Mercer, along with the Compensation  
15 Guidelines for ERCOT, is currently being utilized. As discussed later in my  
16 testimony, ERCOT has a clearly articulated compensation strategy that it follows  
17 in establishing salary and benefit programs.

18

19 **Q. ARE THE COSTS INCLUDED IN THE 2009 ERCOT BUDGET FOR**  
20 **LABOR REASONABLE AND NECESSARY?**

21 A. Yes. The dollar amounts included in the 2009 ERCOT Budget for salaries and  
22 benefits are reasonable and necessary in order for ERCOT to attract and retain the  
23 appropriate skill sets required to properly perform its functions. The ERCOT  
24 deep dive analysis helped the company ensure that the functions it seeks to fund  
25 for 2009 are reflective of the changing nature of ERCOT's work after Nodal  
26 market implementation, and in light of other changes in ERCOT's mission  
27 described in the testimony of other witnesses.

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1 from for their internship. We are also working with two of the universities on a  
2 potential rotational program for interns as a part of a planned curriculum. Due to  
3 the tight demand for power engineers and developers who understand power  
4 engineering, we have not been successful in recruiting unpaid candidates. Most  
5 interns in these programs have offers of up to \$35 per hour, plus living expenses.  
6 So far, ERCOT has not offered stipends for living expenses and we have been  
7 able to offer lower salaries due to the Austin/Taylor location.  
8

9 **Q. HAS ERCOT DETERMINED THAT THERE ARE OTHER BENEFITS OF**  
10 **THE INTERNSHIP PROGRAM?**

11 A. Yes. ERCOT has found that its interns provide excellent work on projects and  
12 provide a fresh look at problems. Interns have been specifically helpful in end-to-  
13 end testing for the Nodal programs. If we did not hire interns to perform certain  
14 duties, ERCOT would have had to hire more expensive contractors to fill  
15 workload gaps. In many cases, our interns enable managers to get more work out  
16 of their employees or contractors because they can assign some lower-level, but  
17 necessary, tasks to interns. This arrangement: (a) gets necessary work done at a  
18 lower labor cost (particularly where it allows ERCOT to avoid hiring additional  
19 employees); and (b) gives managers an opportunity to determine whether the  
20 working intern could become a productive future employee.  
21

22 **Q. PLEASE DESCRIBE THE PROCESS FOR HIRING A NEW EMPLOYEE**  
23 **AT ERCOT.**

24 A. There must be documented justification of the need before any employee is hired.  
25 If a position is in the approved budget, the hiring manager must complete a Hiring  
26 Requisition Form, which is approved up through the officer in charge of the area.  
27 If the position is a new position (not included in the approved budget), the hiring  
28 manager must complete the justification for the hire and work with Human  
29 Resources to create a job description. The new position is slotted by Human  
30 Resources into the proper salary grade considering both internal and external  
31 equity. Once the position has been graded and justified, the hiring manager must

1 receive approval through the officer in charge of the area, the Vice President  
2 Human Resources & Organizational Development, and the President & CEO.

3 The Hiring Requisition Form includes a number of elements for evaluation by  
4 management: description of duties, a breakdown of how much of the work is  
5 related to capital projects, description of why current employees cannot perform  
6 the work, alternatives to the work (including possible re-allocation of work and  
7 elimination of other tasks), and consequences to the organization if the work is  
8 not performed. The fully approved Hiring Requisition Form is then forwarded to  
9 Human Resources along with a job description. Upon receipt of the signed Hiring  
10 Requisition Form, Human Resources will begin the search process. All positions  
11 up to the director level are posted both internally and on the ERCOT website.

12 The hiring manager, in conjunction with the Human Resources recruiter,  
13 determines whether the position will be posted on any external job boards such as  
14 Monster, CareerBuilder, DICE, Energy Central or other industry-specific boards.  
15 Human Resources screens résumés and forwards qualified candidates to the hiring  
16 manager. The hiring manager selects candidates and notifies Human Resources.  
17 Human Resources conducts an initial screening interview by phone. Upon a  
18 favorable outcome of the screening interview, the hiring manager will schedule  
19 further interviews. In many cases, multiple interviews are conducted with the  
20 hiring manager and other team members. Human Resources assists the hiring  
21 manager with hiring and determining the salary to be offered using standard  
22 ERCOT grade information and other market information when available and  
23 appropriate.

24 Candidates who are interviewed are sent a job application that includes a  
25 background authorization and consent form. Prior to extending an offer, the  
26 hiring manager, with assistance from Human Resources, completes the Offer  
27 Approval Form, which includes position and internal salary comparison  
28 information, and obtains the appropriate approvals. A contingent offer (verbal  
29 and/or written) may be extended prior to the completion of a successful  
30 background check and drug test. If the offer is accepted, the drug screen and  
31 background check are completed prior to the applicant's start date. Human

1 Resources facilitates the drug screen, background checks, and reference checks.  
2 All candidates must pass the drug screen and criminal background check or the  
3 employment offer is rescinded. If the offer is declined, an offer may be made to  
4 the next acceptable candidate. If no other acceptable candidate exists, the posting  
5 process begins again from the beginning.

6 The Human Resources department advises the hiring manager of acceptance of  
7 the offer and confirms the start date. Human Resources also notifies all  
8 candidates who were interviewed but not selected of the final decision. The  
9 hiring manager routes all interview notes to Human Resources to be placed in the  
10 search file.

#### 11 12 **IV. EMPLOYEE COMPENSATION AND BENEFITS**

##### 13 **Q. WHAT IS THE ERCOT COMPENSATION STRATEGY?**

14 **A.** In general, ERCOT's compensation and benefits are designed to attract, retain,  
15 reward and motivate qualified employees, align employee performance with  
16 corporate objectives, and promote both individual performance and teamwork.  
17 The value of ERCOT's total cash compensation is benchmarked against the 50<sup>th</sup>  
18 percentile (or median) of the labor markets where ERCOT competes for  
19 employees, defined by the market appropriate for each segment of ERCOT's  
20 employee population (based on where the organization generally attracts qualified  
21 candidates in the various segments).

- 22 • For job families in which the qualified talent pool is drawn primarily from  
23 private and public entities in Texas and surrounding areas, the competitive  
24 market is defined as ERCOT's geographic area. This may include most  
25 roles in Finance, Accounting, Treasury, Legal, Human Resources, Internal  
26 Audit, Information Systems support (*e.g.*, technical support, network  
27 administration), and Administrative roles.
- 28 • For job families and roles requiring specialized or advanced skill sets, with  
29 a smaller available talent pool, the competitive market will be employers  
30 of talent with comparable skill sets nationwide. Examples of these roles  
31

1 include those with expertise in commercial and retail energy markets,  
2 System Operations, Transmission Planning, specialized Information  
3 Technology and Security roles (e.g., infrastructure, applications  
4 development, data warehousing), and roles requiring FERC/NERC  
5 expertise. Management roles, particularly those at the director level and  
6 above, are also included. Management will attempt to hire local  
7 candidates but realizes that a broader search may be required for these  
8 specialized and senior level positions.

9 ERCOT's total cash compensation programs must be market competitive, and its  
10 established base-pay ranges are maintained to ensure an aggregate pay position  
11 that is aligned with the 50<sup>th</sup> percentile of total cash compensation practices of the  
12 competitive market, as defined above. Pay levels for individual employees vary,  
13 as appropriate, relative to their skill, proficiency and individual performance  
14 levels. An individual's base salary is managed within ERCOT's market-based  
15 pay range for their position, but may reside above or below the range midpoint,  
16 depending upon the employee's expertise and performance.

17  
18 **Q. WHAT IS ERCOT'S POLICY FOR DETERMINING EMPLOYEE**  
19 **SALARY GROWTH?**

20 A. ERCOT's base salaries follow a "pay for performance" methodology, providing  
21 salary growth through annual merit increases to employees demonstrating higher  
22 levels of performance, as reflected in the organization's annual performance  
23 review process. ERCOT's pay structure is reviewed annually based on general  
24 market pay increase and structure adjustment trends and the results of  
25 compensation market research conducted for benchmark jobs, as appropriate  
26 given current market conditions, in order to ensure the organization's pay ranges  
27 remain competitive.

28  
29 **Q. HOW DOES ERCOT ENSURE THAT ITS COMPENSATION STRATEGY**  
30 **REMAINS APPROPRIATE AS LABOR MARKETS CHANGE?**



1 A. Every three years – or more often if deemed necessary by ERCOT’s executive  
2 management team, the ERCOT Human Resources and Governance Committee, or  
3 ERCOT’s Board of Directors – ERCOT conducts a comprehensive assessment of  
4 ERCOT’s compensation strategy and pay practices to determine the competitive  
5 posture of the organization and enable ERCOT to devise plan(s), as needed, to  
6 bring identified positions or job families into competitive alignment. The next  
7 three year comprehensive review is planned for 2010.  
8 ERCOT reviews its compensation program on an ongoing basis to ensure that it  
9 meets all legal requirements (*e.g.*, salary programs are non-discriminatory, fair,  
10 and applied consistently, with no special considerations relating to gender, race,  
11 age, and/or disability).

12  
13 **Q. WHAT IS THE ROLE OF THE HUMAN RESOURCES AND**  
14 **GOVERNANCE COMMITTEE OF THE ERCOT BOARD IN**  
15 **DETERMINING THE COMPENSATION STRATEGY?**

16 A. The Human Resources and Governance Committee reviews all executive  
17 compensation and performance. The Committee also reviews the overall  
18 compensation strategy for ERCOT. The Committee reviews the Key  
19 Performance Indicators (“KPI”) for ERCOT and specifically approves the  
20 performance goals for the President and CEO. The Committee plays a key role in  
21 overseeing management of human resources issues and the selection and approval  
22 of corporate officers. In addition, the Committee plays a key role in corporate  
23 governance issues, such as review of ERCOT’s Bylaws and key standards such as  
24 delegation of authority to ERCOT Staff.

25  
26 **Q. PLEASE DESCRIBE ERCOT’S EMPLOYEE RECOGNITION AND**  
27 **REWARD PROGRAMS.**

28 A. The 2009 Board-approved Budget includes 2% of employee salaries to provide  
29 for various employee recognition programs, appreciation celebrations and service  
30 awards. ERCOT recognizes service in five-year increments and provides the  
31 employee with a certificate, a congratulatory letter from the CEO, and the ability

1 to select a gift from a pre-selected list. ERCOT also has a “Thanks Award”,  
2 “Team Player Award” and an “Exceptional Performer Award” where managers  
3 are able to provide cash awards in increments of \$100-1,000 for exceptional  
4 performance. Increasing levels of approval are required depending on the amount  
5 of the awards. ERCOT also recognizes groups of employees who have met major  
6 accomplishments with simple celebrations such as pizza lunches or bagel  
7 breakfasts. ERCOT also provides a company picnic at the Taylor municipal park,  
8 and provides partially catered, partially pot-luck holiday luncheons for employees  
9 and their families in both Taylor and Austin.

10  
11 **Q. PLEASE DESCRIBE ERCOT’S EMPLOYEE BENEFITS PACKAGE.**

12 A. ERCOT has a standard benefits package that is offered to every ERCOT  
13 employee. ERCOT provides: (1) a health, vision and prescription drug plan; (2)  
14 dental plan; (3) life and accidental death and dismemberment plan; (4) short term  
15 and long term disability; (5) long term care; (6) health care and dependent care  
16 flexible spending accounts; (7) an employee assistance program; and (8) a 401(k)  
17 plan. A more detailed presentation of ERCOT’s employee benefits is set forth in  
18 Exhibit NC-2. In addition, ERCOT offers leave benefits including: 10 paid  
19 holidays, a sliding scale of vacation leave from 10 to 20 days, 10 sick leave days,  
20 and other leave practices for jury duty, bereavement, and military service.  
21 ERCOT has offered this standard package of benefits since at least 2003.  
22 Through June 2004, ERCOT funded 100% of employee health and welfare  
23 benefit coverage. Beginning July 2004, ERCOT implemented employee  
24 contributions and deductions for spouse and family coverage, whereby employees  
25 shared in bearing the costs of health and welfare benefit programs. ERCOT  
26 discontinued offering post-retirement medical coverage in 2007. There is  
27 currently a bridge program in place for employees who had 10 years of  
28 experience at ERCOT at the time the program was discontinued. ERCOT does  
29 not offer a defined benefit retirement plan for employees. The benefit cost  
30 sharing for all benefits is described in Exhibit NC-2.

1   **Q.   HOW DOES ERCOT’S TOTAL BENEFITS PACKAGE COMPARE TO**  
2   **COMPARABLE EMPLOYERS?**

3   A.   The total benefits package offered by ERCOT is reasonable and competitive in  
4   the marketplace, while also recognizing ERCOT’s role as a non-profit, public-  
5   service-oriented organization. A competitive stance regarding benefits  
6   contributes positively to the recruitment and retention strategies of the company,  
7   which in turn provides our customers and stakeholders a better level of service.  
8   ERCOT’s total compensation was reviewed as part of the Mercer study, which  
9   found it competitive but reasonable. On an ongoing basis, ERCOT participates in  
10  numerous surveys to review the competitiveness of our benefits programs. In  
11  addition, ERCOT has established an internal Benefits Review Committee made  
12  up of myself, the President & CEO, the Chief Financial Officer, the General  
13  Counsel, and the Director of Benefits & Compensation in the Human Resources  
14  department (a non-voting member). This Committee reviews the benefits  
15  program at least quarterly to determine any changes or modifications.

16  
17  **Q.   PLEASE DESCRIBE ERCOT’S EMPLOYEE PERFORMANCE**  
18  **APPRAISAL PROCESS.**

19  A.   The ERCOT performance appraisal process is designed to provide two-way  
20  communications between the manager and employee about the employee’s  
21  performance during the previous year. The process enables managers and  
22  employees to set specific goals and development objectives. Employee  
23  performance reviews are typically completed during December – February of each  
24  year. As of 2008, ERCOT has added a mid-year review in July to review progress  
25  on achieving the original goals established for the year.

26   The process starts with a manager sending the ERCOT Performance Appraisal  
27   Form (“PAF”) to the reporting employee, requesting that the employee complete  
28   his or her portion of the PAF, and establishing a time for the performance review.  
29   Once the employee completes his or her portion of the form and provides it to his  
30   or her manager, the manager completes the manager section of the form and  
31   gathers other performance-related information which is documented in the PAF.

1 During the performance appraisal, the employee and his or her manager discuss the  
2 accomplishments of the employee, core competencies (such as planning and  
3 organizing, decision making, initiative, or team work), development goals and next  
4 year's objectives. The manager also assigns an overall performance rating using a  
5 5-point rating scale. The rating is supported by written comments provided by the  
6 manager.

7  
8 **Q. PLEASE DESCRIBE THE ERCOT SALARY REVIEW PROCESS AND**  
9 **PROCESS FOR EMPLOYEE IN-LINE PROMOTIONS.**

10 A. The employee salary review is conducted during the first quarter of each year.  
11 Managers are provided guidelines for merit increases, based on the employee's  
12 overall performance score and the employee's current salary range. Employees  
13 who have not been employed a full year or receive an increase in salary during  
14 this period are provided with a pro-rated or limited increase based on performance  
15 and length of service. Increases are based on performance, market value of the  
16 position, and budgetary considerations. To my knowledge, ERCOT has utilized a  
17 performance appraisal process since 2000.

18  
19 **Q. PLEASE DESCRIBE ERCOT'S INCENTIVE COMPENSATION**  
20 **PROGRAM AND IDENTIFY THE POSITIONS AT ERCOT WHICH ARE**  
21 **ELIGIBLE FOR THE PROGRAM.**

22 A. In accordance with Commission directives in 2006, incentive compensation was  
23 eliminated for all employees at ERCOT except the President & CEO. The annual  
24 incentive plan for the President & CEO can equal up to 40 percent of his or her  
25 base salary dependent on achieving key performance goals. The goals are  
26 approved and monitored by the Human Resources and Governance Committee of  
27 the Board of Directors. Approval of any payment under this plan must be  
28 approved by the full Board of Directors.

29  
30 **Q. WHY ARE THE BENEFITS AND COMPENSATION PROGRAMS YOU**  
31 **HAVE DESCRIBED NECESSARY AT ERCOT?**

1 A. In order to attract, retain, reward, and motivate qualified employees and promote  
2 performance and teamwork, ERCOT must be able to compensate employees  
3 competitively. By having the compensation elements described above, ERCOT is  
4 able to maintain the workforce needed to sustain the enormous responsibilities  
5 and the highly detailed and precise requirements required to maintain a reliable  
6 electric system and a competitive electricity market. Without these tools, ERCOT  
7 could lose experienced and qualified employees and compromise its ability to  
8 reliably produce the results expected by the market, the Commission, and the  
9 Texas customers we serve.

10

11 **Q. WHAT IS ERCOT'S RATE OF EMPLOYEE TURNOVER?**

12 A. ERCOT has experienced a turnover rate of 11 percent in 2006, 15.5 percent in  
13 2007 and an annualized rate of 14.3 percent for the first four months of 2008. Our  
14 research indicates that other ISOs experienced an average turnover rate for 2007  
15 of 10.2 percent. The ISO with the lowest turnover experienced a 5.6 percent  
16 turnover in 2007; ERCOT had the highest rate among ISOs in 2007. With the  
17 current local market and the high demand for employees with the skill sets we  
18 require, ERCOT will be fortunate to maintain a turnover rate between 10-12  
19 percent. Limiting turnover – particularly among those employees with skills that  
20 are difficult to replace – is a company-wide priority. When ERCOT reviews its  
21 compensation and benefits programs, one of the key considerations is the impact  
22 it will have on maintaining a seasoned and highly-qualified workforce.

23

24 **Q. WHAT CONTROLS DOES ERCOT HAVE IN PLACE TO MANAGE**  
25 **LABOR COSTS?**

26 A. ERCOT applies a number of controls on labor costs. With regard to hiring  
27 practices, ERCOT is using hiring procedures and processes that ensure new hires  
28 are offered salaries that are appropriate based on experience, qualifications, and  
29 education. Most new employees are paid salaries at or below the mid-point of the  
30 pay grade for the position. If an applicant is offered a position above the mid-  
31 point of the pay range, the officer in charge of the area and the Director of

1 Benefits & Compensation has to approve the offer. Prior to approving the offer  
2 there is a review of the applicant's qualifications, years of experience, previous  
3 salary and the salary levels of existing employees in the area. If an applicant is  
4 offered a salary above the 75th percentile, then all previous approvals are required  
5 plus the approval of the Vice-President of Human Resources & Organizational  
6 Development and the President & CEO.

7 ERCOT has set guidelines for merit increases based on performance scores and  
8 salary range penetration. If a manager wants to offer an amount greater than the  
9 guidelines, additional approval levels are required. Strict guidelines are also  
10 followed for compensation related to promotions, with various levels of approvals  
11 dependent on the amount of the increase proposed.

12 Another labor cost control mechanism used by ERCOT is to carefully balance the  
13 retention of consultants versus full-time ERCOT employees. ERCOT also uses  
14 temporary workers when necessary to reduce the possibility of overstaffing.

15 ERCOT also periodically reassesses its benefit offerings to ensure that costs are  
16 appropriately contained. Each year we request competitive bids from various  
17 insurance providers for group insurance benefits. Contracts are typically awarded  
18 to the lowest bidder that meets ERCOT's specifications. Most importantly,  
19 ERCOT management, down to the departmental level, is committed to  
20 maximizing the productivity and maintaining reasonable costs associated with  
21 ERCOT's employees. If an employee is not meeting the expectations associated  
22 with the position, the manager takes appropriate action – up to and including  
23 termination of the employee. If an employee is not fully utilized, the manager re-  
24 assesses work assignments and makes appropriate adjustments. If an employee's  
25 workload is eliminated because of a process or system change, or the automation  
26 of a previously manual workflow, the manager may re-assign the employee to an  
27 open position or terminate the employee.

28  
29 **Q. PLEASE DESCRIBE WHEN ERCOT WILL PAY FOR RELOCATING A**  
30 **NEW HIRE AND WHAT EXPENSES ARE COVERED.**

1 A. ERCOT always looks to hire from the local market first, and gives preference to  
2 equally qualified applicants who do not require relocation. However, if qualified  
3 local talent is not available, the relocation program enables ERCOT to  
4 successfully recruit new employees not located in the Austin area. ERCOT's  
5 Corporate Standard regarding relocation is designed to minimize the  
6 inconvenience, time loss, and personal or financial burden created by the  
7 relocation of our employees while also keeping expenses reasonable.  
8 Professional level positions are eligible for actual expenses up to \$15,000,  
9 managers and directors are eligible for up to \$30,000 of expenses, and officers are  
10 eligible for up to \$50,000 of expenses. The eligible expenses include those  
11 typically associated with moving a family to a new home.  
12 Employees who receive relocation assistance and leave employment within  
13 twelve months (twenty-four months for amounts in excess of \$10,000) must  
14 reimburse ERCOT for the pro-rate share of the relocation assistance received.

15

16 **Q. HAS THE ERCOT RELOCATION POLICY BEEN REVISED SINCE**  
17 **ERCOT'S LAST SYSTEM ADMINISTRATION FEE CASE IN 2006?**

18 A. Yes. ERCOT has changed the previous policy of providing a cash moving  
19 allowance, moving instead to a system of reimbursing only actual expenses up to  
20 set limits. This extra control ensures that reimbursement dollars are spent on  
21 actual moving costs. In 2007, ERCOT retained the services of a new relocation  
22 services company, Global Mobility Solutions. By utilizing this company,  
23 ERCOT has been able to provide significant relocation cost reductions to our  
24 employees due to negotiated discounts with moving and storage companies. This  
25 savings has allowed ERCOT to reduce the amounts allowed for relocation. Under  
26 the new relocation policy, when the actual moving costs are less, the  
27 reimbursement is also less.

28

29 **Q. HOW MUCH HAS ERCOT SPENT ON RELOCATIONS IN 2006, 2007**  
30 **AND 2008?**

1 A. The total relocation expenses paid for 2006 was \$335,343. For 2007, the total  
2 was \$187,017. Year-to-date relocation expenses paid through May 15, 2008 was  
3 \$191,053.  
4

5 **Q. ARE RELOCATION EXPENSES FOR NEW ERCOT HIRES**  
6 **REASONABLE AND NECESSARY EXPENSES?**

7 A. Yes. Expenses associated with relocating new employees are reasonable and  
8 necessary in order for ERCOT to attract and retain the appropriate skill sets to  
9 allow ERCOT to properly carry out its functions. The limits established in our  
10 program are benchmarked by our relocation provider to ensure they are  
11 reasonable and competitive with the market.  
12

13 **V. RESPONSE TO R.W. BECK REVIEW OF ERCOT STAFFING**  
14

15 **Q. ARE YOU FAMILIAR WITH THE STUDY OF STAFFING**  
16 **REQUIREMENTS COMMISSIONED BY THE COMMISSION AND**  
17 **RECENTLY COMPLETED BY R.W. BECK?**

18 A. Yes. R.W. Beck was retained by the Commission to review the staffing  
19 requirements of ERCOT and to review the organizational structure of ERCOT. I  
20 worked very closely with the consultants from R.W. Beck to provide them with  
21 organizational charts, time tracking information, task analysis and other requested  
22 data.  
23

24 **Q. WHAT IS ERCOT'S VIEW OF THE RESULTS OF THE R.W. BECK**  
25 **STUDY?**

26 A. ERCOT believes the study was conducted thoroughly and thoughtfully by R.W.  
27 Beck. While we do have some reservations with particular recommendations (and  
28 the assumptions underlying them), overall, ERCOT believes the Beck analysis  
29 confirms our key findings regarding future staffing needs. ERCOT's internal  
30 analysis resulted in an overall headcount for 2009 similar to that recommended by  
31 Beck in its April 2008 report. ERCOT's authorized staffing level in the 2009



1 budget is 753 employees. The Beck Report suggested ERCOT will require 725  
2 employees in 2009. The employee estimates do not match precisely, but the Beck  
3 report generally tracks ERCOT's assessment of what will be required to complete  
4 its responsibilities after the Nodal market begins operations.  
5

6 **VI. HUMAN RESOURCES & ORGANIZATIONAL DEVELOPMENT**  
7 **DEPARTMENT 2009 HEADCOUNT AND BUDGET**  
8

9 **Q. HOW DOES THE HUMAN RESOURCES & ORGANIZATIONAL**  
10 **DEVELOPMENT DEPARTMENT FIT INTO THE ERCOT**  
11 **ORGANIZATION?**

12 A. The department (which I will refer to as "HR") is part of ERCOT's Corporate  
13 Administration division, and its budget is incorporated into the larger divisional  
14 budget. I report to ERCOT's President & CEO Bob Kahn, and also work closely  
15 with the members of the Board of Directors' Human Resources & Governance  
16 Committee.  
17

18 **Q. WHAT ARE THE RESPONSIBILITIES OF THE HR DEPARTMENT?**

19 A. The department directs the implementation of ERCOT hiring and compensation  
20 standards, handles recruiting, ensures compliance with employment laws and  
21 regulations, and manages ERCOT's benefits programs. The HR department also  
22 performs several training and communications functions, including new employee  
23 orientation, coaching on performance issues, and employee education regarding  
24 compensation, benefits, and harassment and diversity training. Department staff  
25 also manages various established review processes (such as merit reviews or  
26 termination procedures) and evaluates turnover and retention issues for evaluation  
27 by ERCOT management and the Board of Directors.  
28

29 **Q. HOW HAS THE DEPARTMENT'S WORK CHANGED IN RECENT**  
30 **YEARS?**

1 A. The recruitment and retention of employees for the Nodal Program has  
2 dramatically increased the workload of the HR department in 2007 and 2008. The  
3 time sensitivity of Nodal implementation tasks meant that vacancies needed to be  
4 filled quickly, and often with people possessing highly specialized skills. The  
5 crush of work related to Nodal implementation is expected to diminish in 2009,  
6 but the Nodal recruiting effort highlighted shortcomings in our staffing level for  
7 recruiting. In addition, HR has been asked to perform certain duties that were  
8 formerly housed in other departments. For example, HR staff took over  
9 immigration compliance tracking and control from the Legal department. In  
10 addition, HR took central control of contractor sourcing, which had been  
11 conducted by hiring managers. The centralization of this function helped improve  
12 cost control, tracking, and standardization among ERCOT divisions. HR has also  
13 become intricately involved with asset tracking and recovery. We have also  
14 experienced changes in workload due to NERC standards compliance (*e.g.*,  
15 increased background check requirements and necessity for audit support).

16  
17 **Q. WHAT WERE THE FINDINGS OF THE DEPARTMENT'S DEEP DIVE**  
18 **ANALYSIS?**

19 A. The HR department task analysis demonstrated there is more work demanded of  
20 the department than can be completed by the current headcount. It also  
21 highlighted areas where HR staff can improve their efficiency through automation  
22 or process realignment. The ultimate conclusion was that after the Nodal market  
23 is implemented, the department could consolidate the work that has kept three  
24 contract recruiters at capacity during the Nodal Project could be managed by one  
25 additional recruiter FTE. In all, HR requested an additional FTE to manage its  
26 workload. The department's deep dive document is filed with my testimony as  
27 Exhibit NC-4.

28  
29 **Q. WHAT IS THE HR DEPARTMENT'S AUTHORIZED HEADCOUNT IN**  
30 **THE 2009 BUDGET?**

1 A. As shown in Table 1 below, the HR department's authorized 2009 headcount is  
2 thirteen (13) FTEs, an increase of one (1) over the 2008 authorized headcount.  
3 These increased numbers also reflect the elimination of three contract recruiter  
4 positions in 2009.  
5

6 **Table 1**  
7 **Human Resources**  
8 **Summary of Staffing**  
9

Department	2008 Authorized	2009 Authorized
Human Resources	12	13

10  
11  
12 **Q. IN YOUR OPINION, IS THE BUDGET FOR THE HUMAN RESOURCES**  
13 **& ORGANIZATIONAL DEVELOPMENT DEPARTMENT**  
14 **REASONABLE AND SUFFICIENT TO ACCOMPLISH THE**  
15 **SCHEDULED TASKS FOR 2009?**

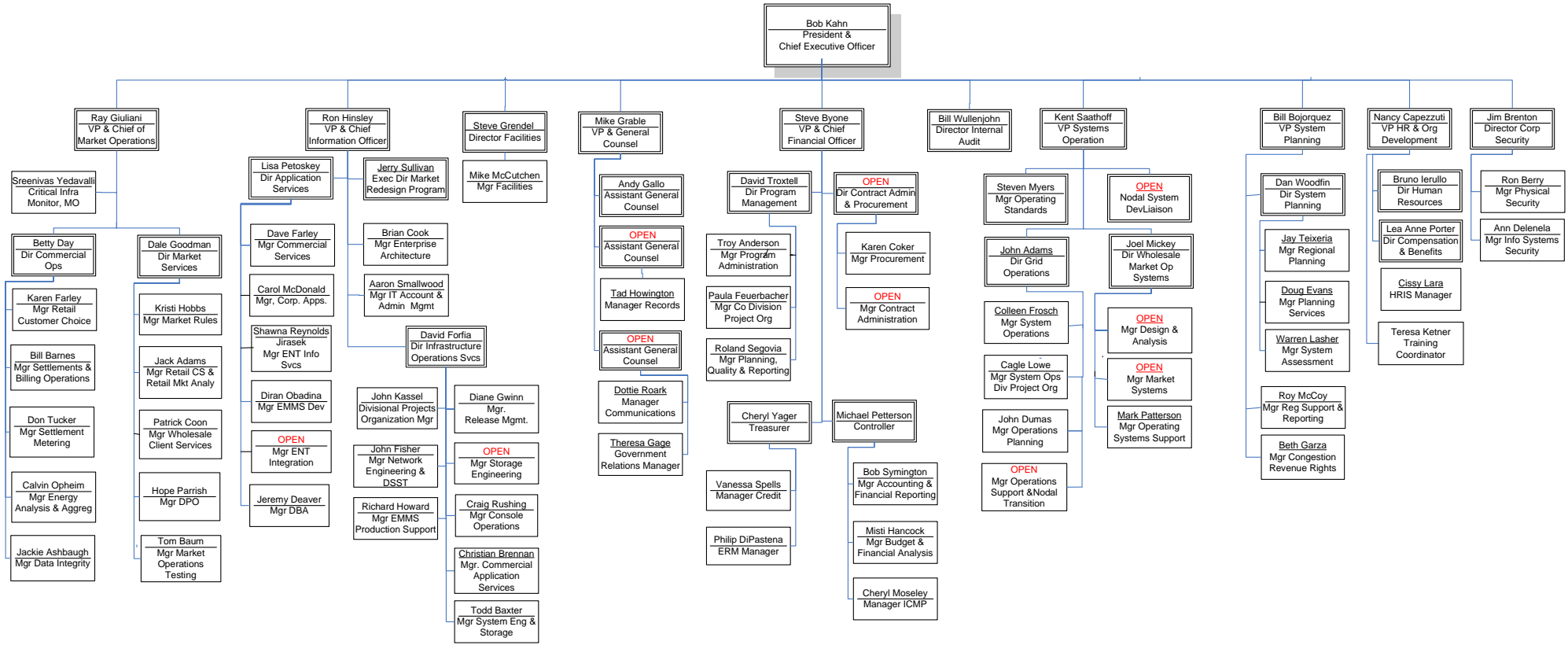
16 A. Yes.  
17

18 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY AT THIS TIME?**

19 A. Yes, it does.

# Manager Level Organization Chart

Exhibit NC-1



## ERCOT Employee Benefits Summary

### Effective 7/1/08 – 6/30/09

### Insurance Plans

#### Health

<b>90/60 Plan</b>	<b>Monthly</b>	<b>Per Pay Period</b>
• Employee Only	\$39.00	\$19.50
• Emp + Spouse	\$125.00	\$62.50
• Emp + Child/Children	\$101.00	\$50.50
• Family Coverage	\$189.00	\$94.50
 <b>80/50 Plan</b>	 <b>Monthly</b>	 <b>Per Pay Period</b>
• Employee Only	ERCOT paid (No cost to the employee)	
• Emp + Spouse	\$38.00	\$19.00
• Emp + Child/Children	\$27.00	\$13.50
• Family Coverage	\$66.00	\$33.00

#### Dental

	<b>Monthly</b>	<b>Per Pay Period</b>
• Employee Only	ERCOT paid (No cost to the employee)	
• Emp + Spouse	\$4.00	\$2.00
• Emp + Child/Children	\$3.00	\$1.50
• Family Coverage	\$6.00	\$3.00

#### Vision

- ERCOT pays the premium for the employee **and** dependents

#### Group Life & AD&D Insurance

- ERCOT pays the employee's premium for an amount equivalent to 1 x annual salary for employee life and accidental death and dismemberment (AD&D) coverage
- Additional coverage available for employee, spouse and children of which employee pays the premiums

#### Short-term Disability

- ERCOT pays the premium for the employee
- 7 day elimination period
- 60% of income and is payable according to terms of insurance contract

#### Long-term Disability

- ERCOT pays the premium for the employee
- 90 day elimination period
- 60% of income and is payable according to terms of insurance contract

#### Long-term Care

- ERCOT pays the basic plan premium for the employee
- 90 day elimination period
- Basic Plan \$1,000/mo facility benefit, or 60% assisted living facility benefit, or 50% professional home health care benefit
- \$36,000 lifetime max
- Additional coverage available for employee and family of which employee pays the premiums

The insurance plans are all effective the first of the month following date of hire. If hired on the first of the month, eligibility is that same day. There are no retiree health, dental or vision insurance available except as provided by COBRA.



## ERCOT Employee Benefits Summary

### Effective 7/1/08 – 6/30/09

#### ***Flexible Spending Account (Section 125) Plan***

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- New employees may enroll within 30 days of employment
- Set aside pre-tax dollars to pay for non-reimbursed medical expenses and/or day care expenses

## **Retirement Plan**

#### ***401(k) Savings Plan***

---

- Employee may contribute up to 99% of salary each pay period
- ERCOT will match 75% of employee's contribution up to 6%
- ERCOT will contribute a fixed non-elective contribution for all employees at 10% of salary (regardless if employee contributes)

#### **Vesting schedule for company match:**

Upon completion of 1 year of employment	20%
Upon completion of 2 years of employment	40%
Upon completion of 3 years of employment	60%
Upon completion of 4 years of employment	80%
Upon completion of 5 years of employment	100%

#### **Vesting schedule for fixed non-elective contribution:**

Upon completion of 1 year of employment	0%
Upon completion of 2 years of employment	0%
Upon completion of 3 years of employment	100%

## **Paid Time Off**

#### ***Vacation***

---

2 weeks (80 hours) of paid vacation for 1 – 5 years of continuous service  
3 weeks (120 hours) of paid vacation for 6 – 10 years of continuous service  
4 weeks (160 hours) of paid vacation for 11 or more years of continuous service

#### ***Holidays***

---

Up to 10 paid holidays per year (8 regularly scheduled and up to two floating)

#### ***Sick Leave***

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10 sick days per year

This benefit summary is intended only to highlight the ERCOT employee benefit plans and should not be relied upon to fully determine coverage. Please refer to the Summary Plan Descriptions for a complete listing of services, limitations and exclusions. The Summary Plan Descriptions prevails in the event of discrepancies.



# ERCOT Organizational Deep Dive

HUMAN RESOURCES

Nancy Capezzuti

Vice President of Human Resources &  
Organization Development

**May 2008**

- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**





# Summary of Findings

# Summary of Staffing

Department	2006 Authorized	2007 Authorized	2008 Authorized	2009 Task Analysis	2009 Requested
130 – Human Resources	10	11	12	15.27	13
Total	10	11	12	15.27	13

## Summary Points

1. Currently are supporting the needs of ERCOT with 11 employees and 3 full time contract recruiters
2. Post Nodal our staffing needs should diminish and we should be able to reduce two of the contractors and would like to convert one contractor to a full time employee to reduce cost and improve service
3. The amount of immigration work and filing requirements is expanding due to the limited supply of power engineers and IT professionals
4. HR has been requested to assist with asset management for exiting employees and this reconciliation process is a new process in HR for 2008 and 2009
5. We will handle the additional tasks outlined in the task analysis with overtime, improved efficiencies and automation of some of the processes

# Factors that Drive HR Staffing Levels

- **Increased Compliance and Audit requirements**
  - NERC Standards Compliance
  - Increased background checking
  - Benefit compliance and audit requirements
  - Improve asset tracking for exiting employees
- **Increased staffing demands**
  - Increased headcount
  - Lack of available talent for hard to fill positions such as power engineering and information technology
  - Increased turnover
  - Increased training requirements
- **Added duties in Human Resources**
  - Immigration tracking and control was moved from legal to Human Resources
  - All contractor sourcing has been moved from the hiring manager to HR for cost control, tracking and standardization
  - Management of new programs, such as sick leave pool, employee recognition program and new employee service awards program
  - Management and reconciliation of exiting employee assets

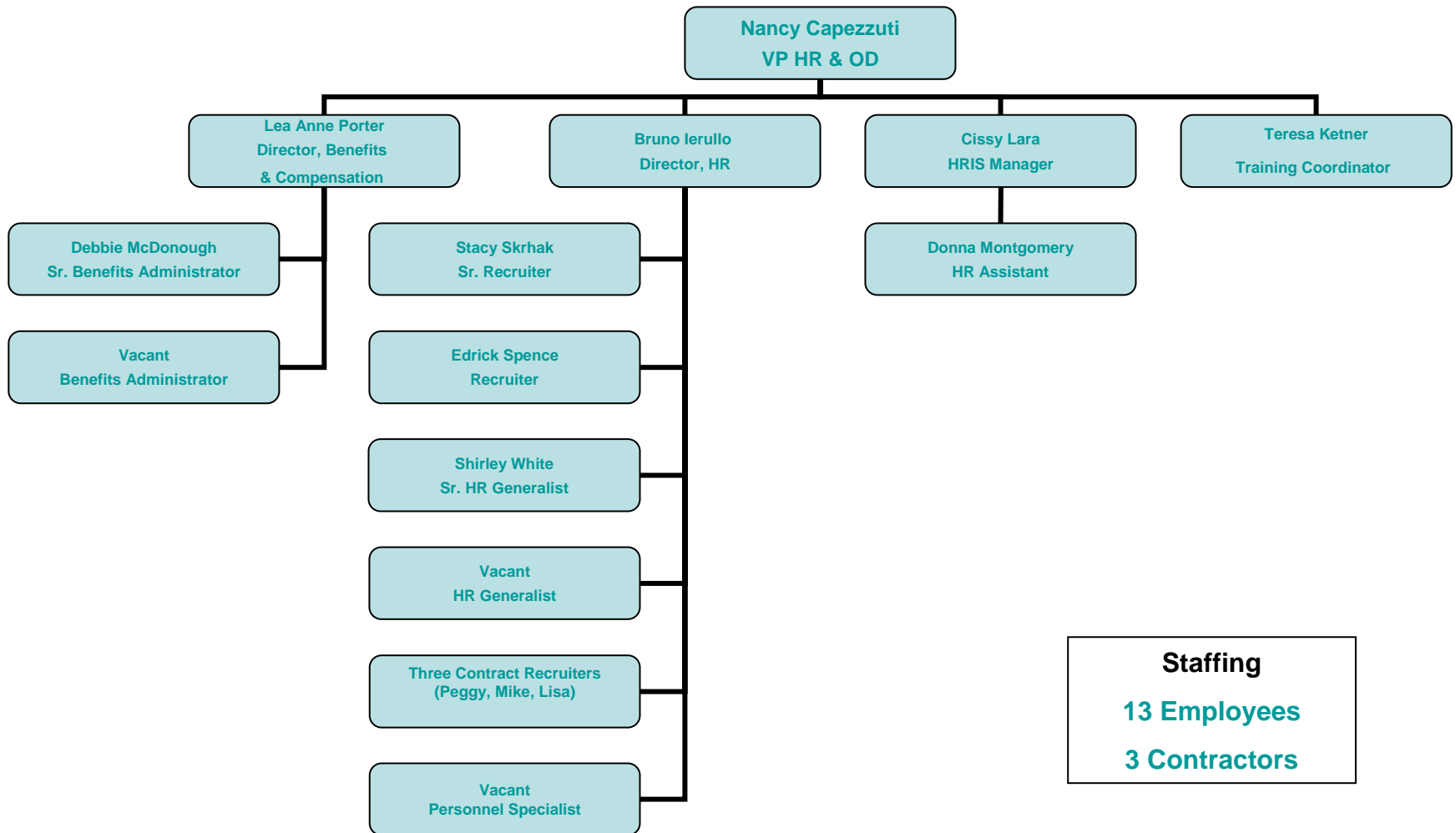
# Summary of Findings

- **Current staff is working overtime to handle the increased demands**
- **Some areas were not addressed at the level required in 2007 and will be improved in 2008 with the use of specialized contractors**
  - Management Training
  - Performance Management Training and Planning
  - Succession Planning
- **Some areas need more automation or clean-up**
  - Initial set up issues in Lawson
  - Manual entry of data in multiple systems
  - Manual process in recruiting and performance management
- **Some controls need to be reviewed**
  - The risk may not justify the additional verifications, more review is needed before changes are recommended
- **HR is becoming viewed as a manager resource for all areas of manager/employee interaction (hiring, coaching, family medical leave, other leave statue, discipline, terminations, etc.). While this is a positive process, it does place additional demands on the HR team.**
- **Staffing requests are based on reducing the number of opening for 2009, if this fails to occur we may need to continue using contractors for specialized recruiting needs**



# Organization Overview

# HR Organization



**Staffing**  
**13 Employees**  
**3 Contractors**

# Human Resource & Organization Development – Core Functions

HR Planning and Communication	Workforce Staffing	Compensation & Benefits	HR Compliance	Organizational Development	Employee Relations
<ul style="list-style-type: none"> <li>•Align HR Strategy with business goals and objectives</li> <li>•Interface with regulatory agencies, BOD, other ISOs</li> <li>•Organizational structure and design</li> <li>•Review automation options and HRIS applications</li> <li>•Employee communications</li> </ul>	<ul style="list-style-type: none"> <li>•Recruiting employees and contingent workforce</li> <li>•Vendor review/ selections for recruiting agencies</li> <li>•On-boarding of employees and contractors</li> <li>•Relocation</li> <li>•Interviewing</li> <li>•Selection</li> <li>•Evaluation of turnover</li> </ul>	<ul style="list-style-type: none"> <li>•Manage Compensation</li> <li>•Merit Review Process</li> <li>•Market Surveys</li> <li>•Employee Recognition Programs</li> <li>•Benefit Plan Design</li> <li>•Benefit Plan Maintenance</li> <li>•Benefit billing and contributions</li> <li>•Leave management</li> <li>•Education reimbursement</li> </ul>	<ul style="list-style-type: none"> <li>•Monitor and ensure benefit plan compliance</li> <li>•Review and management of job classification</li> <li>•Required postings</li> <li>•Required reporting and filings</li> <li>•Policies, Standards and Procedures</li> <li>•Audits (internal and external)</li> <li>•Responses to DOL, EEOC and other administrative reviews</li> </ul>	<ul style="list-style-type: none"> <li>•Identify performance competencies and gaps</li> <li>• Succession planning</li> <li>•Management training</li> <li>•Required training, such as harassment and diversity</li> <li>•Career path development</li> <li>•Orientation</li> <li>•Readiness for change (nodal, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>•Performance Management</li> <li>•Employee Committees</li> <li>•Employee Surveys</li> <li>•Coaching managers</li> <li>•Coaching employees</li> <li>•Litigation avoidance</li> <li>•Exit interviews</li> </ul>

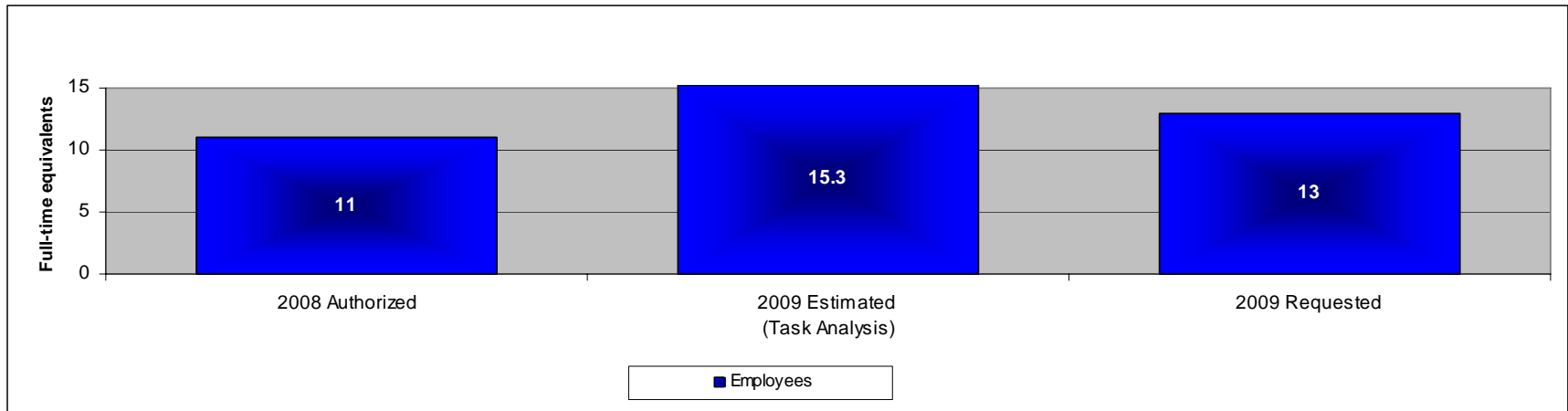


# Task Analysis



# 130 – Human Resources

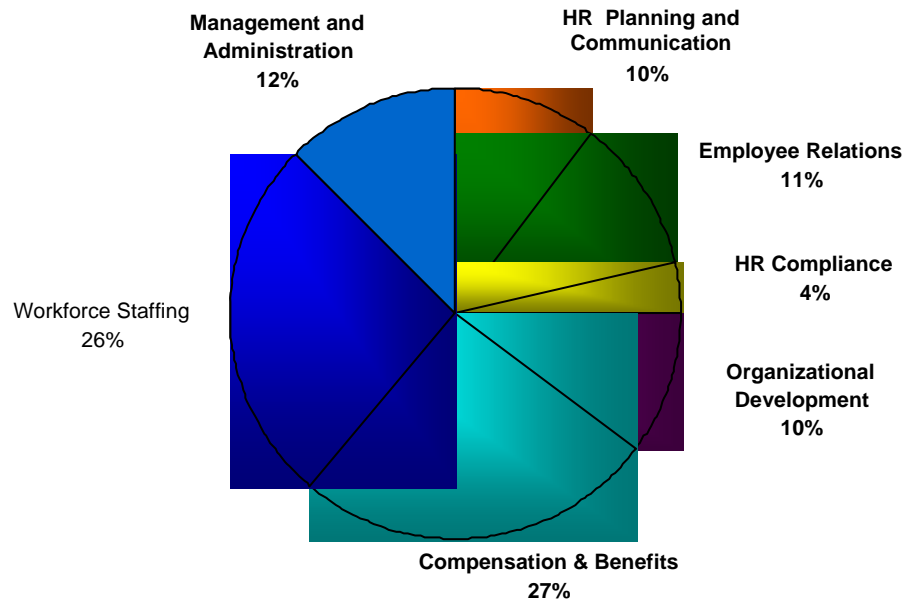
## Headcount Overview



### Summary Points

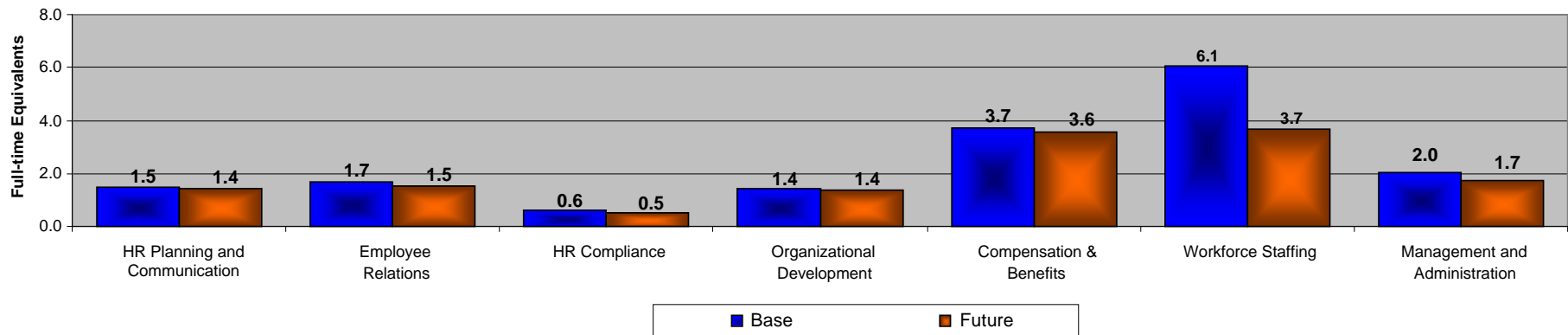
1. One additional employee for 2009 (recruiter to replace three contract recruiters)
2. Must look at ways to reduce the manual entry of data, automation of processes and leverage outsourced options for training
3. Nodal staffing requirements will reduce in 2009 and that will allow for an reduction in contactors.

# 130 – Human Resources Allocation by Function



## Key Points

- ❑ Workforce Staffing should be reduced due to the slow down in staffing/contractor needs post nodal
- ❑ Most other areas should be reduced in 2009 by automation of current manual processes



**DIRECT TESTIMONY OF**

**MICHAEL W. PETTERSON**

**CONTROLLER**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

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**DIRECT TESTIMONY OF MICHAEL W. PETTERSON**

**I. INTRODUCTION AND WITNESS QUALIFICATIONS**

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Michael W. Petterson. My business address is 7620 Metro Center Drive, Austin, Texas 78744.

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by the Electric Reliability Council of Texas, Inc. (“ERCOT”) as its Controller. I joined ERCOT in 2001.

**Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS.**

A. I have a Bachelor of Business Administration degree from the University of Wisconsin at Madison (1985), and a Master of Business Administration degree from the University of Texas at Austin (1991). I am a Certified Public Accountant (“CPA”), licensed in the State of Texas. Prior to joining ERCOT, I held positions as a bank examiner, a financial analyst for an oil and gas company, and a senior consultant at PricewaterhouseCoopers. I joined the Lower Colorado River Authority (“LCRA”) in 1994, and left LCRA in 2001 as a Finance and Accounting Business Manager. I joined ERCOT in 2001.

**Q. WHAT ARE YOUR RESPONSIBILITIES AS CONTROLLER?**

A. I direct the financial affairs of the organization and prepare financial analyses of operations, including interim and final financial statements with supporting schedules, for the guidance of management. I am also responsible for ERCOT’s financial plans and policies, its accounting practices, the maintenance of its fiscal records, and the preparation of financial reports. I also supervise ERCOT’s general accounting, asset accounting, payroll, budget and reporting, financial analysis, and billing and revenue functions.

1   **Q.   HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
2       **COMMISSION OF TEXAS?**

3   A.   Yes, I have. I testified on behalf of ERCOT in its last four fee cases, which were  
4       PUC Docket Nos. 23320, 26827, 28832, and 31824. I testified on behalf of  
5       ERCOT in PUC Docket No. 30456, the Commission Staff's Petition to Reduce  
6       the ERCOT System Administration fee. I also submitted testimony in Docket  
7       Nos. 32686 and 35428, ERCOT's requests for approval of the Nodal market  
8       implementation surcharge.

9  
10   **Q.   WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

11   A.   The purpose of my testimony is to:

- 12       • present the exhibits, schedules, and workpapers that are required as part of
- 13       ERCOT's Fee Filing Package pursuant to P.U.C. PROC. R. § 22.252(c);
- 14       • present accounting information regarding the 2009 ERCOT Budget and
- 15       revenue requirements, including a discussion of significant assumptions used
- 16       in developing the budget;
- 17       • describe the fees that ERCOT collects;
- 18       • explain how the ERCOT System Administration Fee was calculated;
- 19       • present an overview of ERCOT's accounting systems, time tracking activities,
- 20       and chart of accounts, as well as the schedules attached to this Fee Filing
- 21       Package.

22  
23                   **II.   ERCOT FEE FILING PACKAGE**  
24                   **EXHIBITS, SCHEDULES, AND WORKPAPERS**

25  
26   **Q.   PLEASE IDENTIFY THE EXHIBITS, SCHEDULES, AND**  
27       **WORKPAPERS THAT YOU ARE SPONSORING.**

28   A.   I am sponsoring the following Exhibits, Schedules, and Workpapers:

29       Exhibit MP-1 – Standard Chart of Accounts

1	Schedule 1 – Revenue Requirement and ERCOT System Administration Fee
2	Summary
3	Schedule 2 – Summary of Estimated Income Sources
4	Schedule 3 – Sources and Uses of Funds Summary
5	Schedule 4 – Divisional Expenses by Expense Type
6	Schedule 5 – Divisional Expenses by Department
7	Schedule 6 – Summary of Divisional Expenses by Expense Type
8	Schedule 7 – 2008 Operating Activity Budget to Actual Comparison at April 30,
9	2008
10	Schedule 8 – 2009 Project Funding
11	Schedule 9 – 2008 Project Budget to Actual Comparison at April 30, 2008
12	Schedule 10 – Pro Forma Statements of Financial Position
13	Schedule 11 – Pro Forma Statements of Activities
14	Schedule 12 – Pro Forma Statement of Cash Flows
15	Schedule 13 – Financial Analyses
16	Schedule 14 – Workforce Requirements
17	Schedule 15 – Staffing Activities
18	Schedule 16 – Consultant Activities
19	WP.1.1 Recommended Total Spending Authorization ERCOT System
20	Administration Fee Summary Chart (2006 - 2014)
21	WP.1.2 Revenue Requirement and ERCOT System Administration Fee
22	Summary Table (2006 - 2014)
23	WP.1.3 Fee Sensitivity
24	WP.1.4 Estimated Fee Impact on Average Household
25	WP.2.1 Income Summary (2006 - 2014)
26	WP.2.2 Membership Revenue Summary
27	WP.4.1 ERCOT Division, Departmental Expenses by Expense Type (2006 -
28	2009)
29	WP.4.2 Operating and Maintenance Expenses by Division (2006 - 2009)
30	WP.4.3 Operating and Maintenance Expenses by Division Chart

1 WP.4.4 Operating and Maintenance Component of Revenue Requirement by  
2 Expense Type Chart  
3 WP.4.5 Outside Services Expense Summary by Division  
4 WP.4.6. Outside Services Expense Summary by Division and Department  
5 (2009 Budget vs. 2008 Budget)  
6 WP.4.7. Hardware/Software Support and Maintenance Summary  
7 WP.4.8 Utilities, Maintenance and Facility Summary  
8 WP.4.9 Employee Expense by Account  
9 WP.4.10 Other Expense by Account  
10 WP.4.11 Corporate Administration - Operating and Maintenance Component of  
11 Revenue Requirement by Expense Type  
12 WP.4.12 Corporate Administration - Operating and Maintenance Component of  
13 Revenue Requirement by Expense Type Chart  
14 WP.4.13 Information Technology - Operating and Maintenance Component of  
15 Revenue Requirement by Expense Type  
16 WP.4.14 Information Technology - Operating and Maintenance Component of  
17 Revenue Requirement by Expense Type Chart  
18 WP.4.15 Market Operations - Operating and Maintenance Component of  
19 Revenue Requirement by Expense Type  
20 | WP.4.16 Market Operations - Operating and Maintenance Component of  
21 Revenue Requirement by Expense Type Chart  
22 WP.4.17 System Operations - Operating and Maintenance Component of  
23 Revenue Requirement by Expense Type  
24 WP.4.18 System Operations - Operating and Maintenance Component of  
25 Revenue Requirement by Expense Type Chart  
26 WP.4.19 System Planning - Operating and Maintenance Component of Revenue  
27 Requirement by Expense Type  
28 WP.4.18 System Planning - Operating and Maintenance Component of Revenue  
29 Requirement by Expense Type Chart  
30 WP.5.1 Corporate Administration - Departmental Expenses by Expense Type  
31 WP.5.2 Corporate Administration - Outside Services Expense Detail

1 WP.5.3 Information Technology - Departmental Expenses by Expense Type  
2 WP.5.4 Information Technology - Outside Services Expense Detail  
3 WP.5.5 Market Operations - Departmental Expenses by Expense Type  
4 WP.5.6 Market Operations - Outside Services Expense Detail  
5 WP.5.7 System Operations - Departmental Expenses by Expense Type  
6 WP.5.8 System Operations - Outside Services Expense Detail  
7 WP.5.9 System Planning - Departmental Expenses by Expense Type  
8 WP.5.10 System Planning - Outside Services Expense Detail  
9 WP.8.1 2009 Funded Project Initiatives by CART and Project  
10 WP.8.2 2009 Unfunded Project Initiatives by CART  
11 WP.8.3 2009 Unfunded Project Initiatives by CART and Project  
12 WP.12.1 Debt Profile (2004 - 2020)  
13 WP.15.1 Staffing Summary by Division and Department  
14 WP.15.1 Staffing Summary by Activity  
15

16 **Q. IS THE INFORMATION CONTAINED IN THE EXHIBITS, SCHEDULES,**  
17 **AND WORKPAPERS SPONSORED BY YOU TRUE AND CORRECT?**

18 A. Yes. The Exhibits, Schedules, and Workpapers that I sponsor were prepared by  
19 me or under my supervision and the information contained therein are true and  
20 correct.  
21

22 **III. 2009 ERCOT BUDGET AND REVENUE REQUIREMENTS**

23  
24 **Q. PLEASE DESCRIBE YOUR ROLE IN THE DEVELOPMENT OF THE**  
25 **2009 ERCOT BUDGET.**

26 A. Working with managers and staff from across ERCOT, I coordinated the  
27 preparation, review, and approval of the 2009 ERCOT Budget.  
28



1   **Q.   PLEASE DESCRIBE THE COMPONENTS OF THE 2009 ERCOT**  
2   **BUDGET AND REVENUE REQUIREMENTS.**

3   A.   I have provided a summary of revenue sources (fees) in Schedules 2 and 3 and an  
4   overview of ERCOT's 2009 revenue requirements in Schedule 1. ERCOT's 2009  
5   budgeted revenue requirement for base operations totals \$194.7 million or  
6   \$0.5698 per megawatt hour ("MWh"). The revenue requirements include  
7   budgeted operating expenses, the revenue-funded portion of planned capital  
8   projects, and anticipated principal and interest payments on borrowed funds.

9   Operating Expenses – Base operations operating expenses, including categories  
10   such as labor and benefits, consultant and contractor costs, hardware and software  
11   maintenance and license costs, and facilities maintenance and utilities cost, total  
12   approximately \$131.7 million in the 2009 ERCOT Budget. Schedules 4-6 provide  
13   information regarding budgeted expenses by expense type, operational division,  
14   and department. Operating expenses also include approximately \$1.7 million for  
15   market monitoring activities performed by the Independent Market Monitor and  
16   \$0.8 million for protocol compliance services performed by the Texas Regional  
17   Entity.

18   Revenue-funded Capital Expenditures - The 2009 ERCOT capital budget includes  
19   \$47.6 million for funding of planned capital expenditures. The direct testimony  
20   of ERCOT Chief Financial Officer Steve Byone explains the process ERCOT  
21   used to develop the list of projects planned to be funded with this amount.  
22   ERCOT's 2009 revenue requirement includes \$19.0 million for revenue funded  
23   capital spending. Schedule 8 provides information regarding projects planned for  
24   2009. Schedule 9 provides a budget versus actual comparison of year-to-date (as  
25   of April 30, 2008) project expenditures.

26   Debt Service - The third major component of ERCOT revenue requirement is debt  
27   service payments. ERCOT has included \$33.6 million for scheduled principal  
28   repayment in its 2009. Another \$7.9 million is included for interest payments on  
29   borrowed money. Additional information is provided in Schedule 1.

30   Electric Reliability Organization Pass-through – The 2009 ERCOT Budget  
31   includes offsetting revenue and expense items totaling approximately \$8.6 million

1 for a federally mandated pass-through charge established to recover an amount  
2 approved by the Federal Energy Regulatory Commission (“FERC”) as the  
3 ERCOT region’s share of the annual budgeted operating costs of the Electric  
4 Reliability Organization (“ERO”). The amount included in ERCOT’s 2009  
5 budget and reflected in the schedules and work papers I am sponsoring is a  
6 preliminary estimate. The actual pass-through amount will be established at the  
7 figure approved by FERC later in 2008.

8  
9 **Q. PLEASE EXPLAIN THE KEY ASSUMPTIONS BEHIND THE 2009**  
10 **ERCOT BUDGET.**

11 A. The key assumptions behind the 2009 ERCOT Budget include:

12 • Labor

- 13 ○ ERCOT requires 753 full-time equivalent (“FTE”) positions to fulfill  
14 its responsibilities to the market.
- 15 ○ Employee benefits are assumed at 32 percent of salary.
- 16 ○ Budgeted labor expense is adjusted downward by approximately seven  
17 percent to reflect the financial impact of staff turnover and staggered  
18 hiring of planned new employees throughout 2009.
- 19 ○ Existing employees are budgeted based on their actual 2008  
20 compensation levels.
- 21 ○ Planned new hires and vacant positions are budgeted at the mid-point  
22 of the salary range associated with the grade of the position.
- 23 ○ An average annual merit award assumed at three percent of base  
24 salaries.
- 25 ○ An average allowance for employee promotions and other market  
26 adjustments assumed at two percent of base salaries.
- 27 ○ Reward & Recognition program assumed at two percent of base  
28 salaries.
- 29 ○ On average, approximately 11 percent of ERCOT staff time will be  
30 dedicated to tasks relating to approved projects. Labor allocated to  
31 project priority list activity is based on managers’ resource allocations.

- 1                   ○ All 2009 labor and benefits costs related to Nodal market functions  
2                   will be attributed to ERCOT's base operations.
- 3       • Consultants and Contractors
- 4                   ○ Provide assistance with expertise in highly technical areas where  
5                   ERCOT could not cost-effectively develop in-house expertise.
- 6                   ○ Provide assistance on tasks associated with the early implementation  
7                   of the Nodal market in 2009.
- 8                   ○ Conduct third-party and internal audits of ERCOT finances,  
9                   operations, and control environment.
- 10                  ○ Provide legal assistance in specific areas when ERCOT's Legal  
11                  department does not have necessary specialized expertise or resources.
- 12                  ○ Assist ERCOT with real estate and architectural issues related to  
13                  existing and planned ERCOT facilities.
- 14                  ○ Provide consulting expertise to support other capital projects during  
15                  the project stages before costs can be capitalized.
- 16                  ○ Plan, implement, assess, and audit physical and cyber security  
17                  functions.
- 18                  ○ Assist in ensuring ERCOT compliance with FERC, NERC, and other  
19                  regulatory standards.
- 20                  ○ Provide retail switch notification services.
- 21       • Hardware Maintenance and Software Support
- 22                  ○ Existing contracts are assumed to continue since no major retirements  
23                  of systems or system functionality is planned for 2009.
- 24                  ○ New projects placed into service in 2007, 2008 and 2009 will carry  
25                  annual maintenance and support costs of approximately 15 to 20  
26                  percent of the capital investment made in hardware and software.  
27                  Implementation of the Nodal market required significant new,  
28                  incremental investment in hardware and software systems. As a result,  
29                  hardware and software maintenance and support costs increase  
30                  significantly in 2009 relative to similar expenditures in 2008 and prior  
31                  years.

- 1       • Facilities, Utilities, Maintenance, Equipment, Materials, Tools and Supplies  
2       includes:  
3             ○ Met Center disposition, Austin Data and Control Centers, and Taylor  
4             Data Center expansion are being funded as a capital project.  
5             ○ Utilities  
6             ○ Lease and rent payments  
7             ○ Telecommunication services  
8             ○ Preventative maintenance at Taylor control center and Met Center  
9             facilities.
- 10       • Employee Expenses  
11            ○ Employee expenses include reimbursement for authorized expenses  
12            incurred by employees while conducting business on behalf of the  
13            organization. Included are travel costs, hotel charges, training  
14            expenses, personal vehicle mileage reimbursement, professional  
15            organization membership dues, and cell phone usage costs among  
16            other items.  
17            ○ New manager training needed for efficiency of ERCOT operations.  
18            ○ Staff will require extensive training for existing applications and  
19            Nodal systems.  
20            ○ Budgeted costs on a per employee basis have fallen from  
21            approximately \$3,650 in 2004 to \$2,500 per employee budgeted for  
22            2009. See work paper WP.4.9 for additional detail.
- 23       • Interest, Fees and Capital Investment  
24            ○ Annual principal payments of \$13.6 million on \$150 million senior  
25            notes payable began in 2004 and continue until 2014.  
26            ○ An Annual principal payment of \$20.0 million on the term notes  
27            payable is expected in 2009.  
28            ○ Assumed capital spending of \$47.6 million in 2009.  
29            ○ Capital spending assumed 60 percent debt-funded with the remaining  
30            40 percent coming from the 2009 ERCOT System Administration Fee.

1       • Other Expenses

- 2             ○ Wind and weather forecasting subscription services of approximately  
3             \$.9 million in 2009. This need for these services is discussed in the  
4             direct testimony of ERCOT Vice-President and Chief Information  
5             Officer Ronald J. Hinsley.

6       • Other Assumptions

- 7             ○ Megawatt-hour volume on the ERCOT grid budgeted for 2009 will be  
8             approximately 1.7 percent above the volume forecast for 2008.  
9             ○ Average long-term inflation of approximately 2.1 percent based on the  
10            Consumer Price Index.  
11            ○ The Nodal Surcharge will remain in effect until the costs of  
12            implementing the Texas Nodal Market Implementation Program, at the  
13            levels approved by the Commission, are recovered. The Nodal  
14            Surcharge of \$0.169 per MWh was approved by the Commission in  
15            Docket No. 35428, and went into effect June 1, 2008.  
16            ○ Funds collected by ERCOT from Wide-Area Network Fees, map sales,  
17            and membership fees are consistent with amounts realized in 2008,  
18            and remain a minor portion of ERCOT funding.  
19            ○ The Texas, Non-ERCOT Load Serving Entity Fee is assumed  
20            eliminated on January 1, 2009, as discussed in the testimony of  
21            ERCOT Vice-President and Chief Financial Officer (“CFO”) Steve  
22            Byone.

23  
24                               **IV. ERCOT’S FEE PROPOSALS**

25  
26       **Q. PLEASE IDENTIFY THE FEES THAT ERCOT CURRENTLY**  
27       **COLLECTS.**

28       **A.** As shown in Schedules 2 and 3, ERCOT collects a variety of fees. By far the most  
29       significant of ERCOT’s fees is the ERCOT System Administration Fee. ERCOT  
30       anticipates that about 93 percent of ERCOT’s 2009 revenues will derive from the  
31       System Administration Fee. The System Administration Fee recovers ERCOT’s

1 base operations costs. The System Administration Fee is currently assessed to  
2 Qualified Scheduling Entities (“QSEs”) based on the energy consumption of load  
3 serving entities (“LSEs”) represented by each QSE. The current System  
4 Administration Fee is \$0.4171 per MWh.

5 While the System Administration Fee is responsible for the majority of ERCOT’s  
6 revenues, ERCOT collects several other fees. ERCOT collects the Nodal  
7 Surcharge, which was approved by the Commission to recover the costs of the  
8 Texas Nodal Market Implementation Program (“Nodal Program”). The Nodal  
9 Surcharge was recently set at \$0.169 per MWh in Docket No. 35428. ERCOT  
10 currently projects it will have recovered the costs of the Nodal Program in full by  
11 2012; when Nodal Program costs have been collected, ERCOT will, as directed  
12 by the Commission, stop collecting the Nodal Surcharge. The revenues from the  
13 Nodal Surcharge are devoted exclusively to recovering ERCOT’s Nodal Program  
14 costs, including the costs of debt financing. Nodal Surcharge revenues will not  
15 fund the costs of ERCOT’s base operations after the implementation of the Nodal  
16 market.

17 ERCOT collects annual membership fees of \$2,000 from corporate members and  
18 \$500 from associate and adjunct members. These fees are collected pursuant to  
19 ERCOT’s bylaws as a requirement of voluntary membership in the organization,  
20 for which ERCOT provides members with the right to vote (corporate members  
21 only), access to ERCOT information, the opportunity to serve on ERCOT  
22 committees (corporate and associate members only), and other member services  
23 and activities such as the annual meeting.

24 ERCOT collects fees as part of the “Generation Interconnection or Change  
25 Request Procedure” administered by the System Planning division. ERCOT  
26 utilizes this procedure to assist generation developers to connect to the ERCOT  
27 system. The direct testimony of ERCOT Vice-President of System Planning Bill  
28 Bojorquez provides additional detail regarding ERCOT’s generation  
29 interconnection fees, including ERCOT’s proposal to change the fee structure for  
30 the “Security Screening Studies” performed by System Planning staff.

1 ERCOT also collects specific user fees, including the Private Wide Area Network  
2 (“WAN”) Fee to recover direct costs, with no overhead allocation, for the WAN  
3 services ERCOT provides. ERCOT also charges a fee for providing system maps,  
4 to recover the costs associated with maintaining and copying the maps.

5 In 2007, ERCOT began collecting the NERC Electric Reliability Organization  
6 (“ERO”) Fee. While ERCOT collects the ERO Fee, it has no control over the  
7 level of the fee, and it passes all fee revenue directly through to NERC. The 2009  
8 ERCOT Budget includes offsetting revenue and expense items totaling  
9 approximately \$8.6 million for a federally mandated pass-through charge  
10 established to recover an amount approved by the Federal Energy Regulatory  
11 Commission (“FERC”) as the ERCOT region’s share of the annual budgeted  
12 operating costs of the Electric Reliability Organization. The amount included in  
13 ERCOT’s 2009 budget and reflected in the schedules and work papers I am  
14 sponsoring is a preliminary estimate. The actual pass-through amount will be  
15 established at the figure approved by FERC later in 2008.

16  
17 **Q. IS THERE A CHANGE IN THE RELATIVE SIGNIFICANCE OF THE**  
18 **VARIOUS FEES COLLECTED BY ERCOT?**

19 A. No. As reflected in Schedule 3 - Sources and Uses of Funds Summary, the  
20 ERCOT System Administration Fee remains the most significant source of  
21 ERCOT funds.

22  
23 **Q. IS ERCOT REQUESTING THAT THE COMMISSION CHANGE ANY OF**  
24 **THE FEES ERCOT CHARGES?**

25 A. Yes. ERCOT is requesting that the Commission approve three changes in the fees  
26 it charges:

- 27 (1) An increase in the System Administration Fee to \$0.5698 per MWh;  
28 (2) An increase in the Security Screening Study (“SSS”) Fee, based on the  
29 following schedule:  
30  
31

Interconnect MW Level	Fee	Comments
1 to 149 MW	\$10,000	One request, one site, one voltage level
150 MW and above	\$15,000	
Each additional voltage level	\$5,000	Test additional voltage level 1 MW and above

(3) Elimination of the Texas, Non-ERCOT Load Serving Entity Fee.

The basis for the change in the SSS Fee is explained in the direct testimony of ERCOT Vice-President of System Planning Bill Bojorquez. The rationale for the elimination of the Non-ERCOT LSE Fee is explained in the direct testimony of ERCOT CFO Steve Byone.

**Q. WHAT IS THE REVENUE REQUIREMENT AND ERCOT SYSTEM ADMINISTRATION FEE REQUESTED BY ERCOT?**

A. The revenue requirement and ERCOT System Administration Fee requested by ERCOT is summarized in Schedule 1.

**Q. HOW WAS THE AMOUNT OF THE REQUESTED ERCOT SYSTEM ADMINISTRATION FEE CALCULATED?**

A. Schedule 1 summarizes the process by which the level of the ERCOT System Administration Fee is calculated. First, total base operations revenue requirements are determined. For 2009, this amount is \$194.7 million. Next, the revenue requirements are reduced for the amount of funding expected to be received by ERCOT from membership fees, interest income, and revenue sources other than the ERCOT System Administration Fee (not including the Nodal Surcharge). For 2009, this amount is estimated to be approximately \$12.7 million. The remaining balance of \$182.0 million is the amount of funding needed from the System Administration Fee. This amount is then divided by the forecasted MWh of energy consumption for the calendar year. Based on this methodology, ERCOT needs the ERCOT System Administration Fee to be set at



1 \$0.5698 per MWh to allow ERCOT to recover its reasonable and necessary costs  
2 for performing its required activities and functions.

3  
4 **Q. HOW SENSITIVE IS THE BUDGETED ERCOT SYSTEM**  
5 **ADMINISTRATION FEE TO VARIABLES SUCH AS CAPITAL**  
6 **SPENDING, ENERGY CONSUMPTION, INTEREST RATES, AND**  
7 **OPERATING COSTS?**

8 A. Workpaper WP.1.3 summarizes the sensitivity of the ERCOT System  
9 Administration Fee to such variables.

10  
11 **Q. HOW WAS THE FORECAST FOR BUDGET YEAR 2009 DEVELOPED?**

12 A. The 2009 forecast of energy consumption in ERCOT (approximately 319.4  
13 million MWh) was developed and computed by ERCOT's System Planning staff.  
14 The forecast is discussed in more detail in the direct testimony of ERCOT Vice-  
15 President of System Planning Bill Bojorquez.

16  
17 **V. ERCOT'S ACCOUNTING SYSTEMS AND CHART OF ACCOUNTS**

18  
19 **Q. PLEASE DESCRIBE ERCOT'S CHART OF ACCOUNTS.**

20 A. All ERCOT transactions are recorded to the general ledger using a string of  
21 accounting codes that will, at a minimum, include a company identifier, a  
22 department code, and a detailed account number. Transactions associated with  
23 approved capital projects will also include a unique activity code and account  
24 category number.

- 25 • Company Identifier – ERCOT employs a single company identifier “2705”.
- 26 • Department Code –ERCOT is organized into five divisions, Corporate  
27 Administration, Information Technology, System Operations, System  
28 Planning, and Market Operations. There are approximately 70 departments,  
29 based on functional responsibility, in the five divisions. The department code-  
30 numbering scheme is summarized below. There are a number of departmental

1 changes when comparing the departments included in the 2008 budget to  
2 those included in the 2009 budget.

<u>Division</u>	<u>Department Number Range</u>
Corporate Administration	100 - 169, 171 - 199, 325, 370 - 372
Information Technology	300 - 324, 326 - 369, 373 - 399
System Operations	400 - 469
System Planning	470 - 499
Market Operations	170, 500 - 699

9 • Detailed Account Number – ERCOT’s chart of accounts includes more than  
10 300 detailed accounts rolling up to approximately 24 summary accounts. The  
11 summary and detail account numbers are also grouped into one of five  
12 financial statement categories (assets, liabilities, unrestricted net assets,  
13 revenue, and expenses). A high-level summary of the detailed account  
14 numbering logic is shown below.

<u>Financial Statement Account Group</u>	<u>Detail Account Number Range</u>
Assets	10000 - 19999
Liabilities	20000 - 29999
Unrestricted Net Assets	30000 - 39999
Revenue	40000 - 49999
Expenses	60000 - 79999

21 Detailed account numbers are presented in Exhibit MP-1 - Standard Chart of  
22 Accounts.

23 • Activity Code – Each project approved and undertaken by ERCOT is assigned  
24 a unique or a series of unique “activity” codes. All transactions relating to the  
25 project reference the activity code.

26 • Account Category Number – Any time an activity code is used for a project  
27 transaction, it is necessary to also assign an account category number. The  
28 account category number is similar to the summary account discussed  
29 previously, in that it represents a roll-up of one or more detailed account  
30 numbers.

31 Typically, the general ledger is not the initial point of entry of transactional  
32 information into the ERCOT accounting system. Transaction detail is normally  
33 entered into the subsidiary ledgers, such as the accounts payable, accounts  
34 receivable, cash, or billing ledgers. Transactions are entered into these subsidiary

1 ledgers with much greater detail. For instance, they will have information such as  
2 the vendor name, vendor number, invoice number, invoice date, payment due  
3 date, check number and check issue date among other fields of information.  
4

5 **Q. WHAT ACCOUNTING SYSTEMS DOES ERCOT USE?**

6 A. ERCOT uses Lawson Software accounting systems.  
7

8 **Q. HOW DOES ERCOT ACCOUNT FOR ITS OPERATING COSTS AND**  
9 **REVENUES?**

10 A. ERCOT's revenues and operating costs are budgeted, incurred, and accounted for  
11 using the account structure and chart of accounts described above. During the  
12 annual budgeting process, each ERCOT manager develops a proposed budget  
13 employing the detailed chart of account codes. Throughout the year, as revenues  
14 are realized and operating costs are incurred, they are entered into ERCOT's  
15 accounting system using the appropriate transaction codes, including company,  
16 department, account, activity codes, and account category numbers (as  
17 applicable).  
18

19 **Q. HOW DOES ERCOT ACCOUNT FOR CAPITAL COSTS?**

20 A. ERCOT identifies, plans, and budgets for capital projects using the processes  
21 described in the testimony of Steve Byone. Once capital projects are approved,  
22 capital expenditures are budgeted, incurred, and accounted for using the account  
23 structure and chart of accounts described above. Throughout the year, as capital  
24 costs are incurred, they are entered into ERCOT's accounting system using the  
25 appropriate transaction codes, including company, department, account, activity  
26 codes, and account category numbers.  
27

28 **Q. DOES ERCOT'S ACCOUNTING SYSTEM AND THE SCHEDULES AND**  
29 **WORKPAPERS FILED HEREIN COMPLY WITH THE FEE FILING**  
30 **PACKAGE APPROVED BY THE COMMISSION?**

31 A. Yes, they do.

1                                   **VI.     CORPORATE-WIDE TIME TRACKING**

2  
3   **Q.     PLEASE DESCRIBE ERCOT'S CORPORATE-WIDE TIME TRACKING**  
4   **EFFORT.**

5       In 2005, ERCOT implemented a corporate-wide time tracking effort for a number  
6       of purposes: enable ERCOT management to evaluate progress toward  
7       accomplishment of company goals and objectives; assist managers in budgeting  
8       for and allocating staff effort by providing improved resource tracking  
9       information; gauge the efficiency of ERCOT's operations so as to measure and  
10      reward gains in efficiency; track employee leave balances by decrementing  
11      employee leave balances based on vacation, sick, jury duty, and other similar  
12      leave reported by the employee; serve as the basis on which ERCOT's non-  
13      exempt employees are compensated for hours (regular and overtime) worked; and  
14      provide more definitive documentation of the activity undertaken by ERCOT  
15      staff to market participants and regulatory authorities.

16      Given the important uses of the time tracking information it is essential that (1) all  
17      employees, regardless of position, task assignment, or work location record their  
18      time in ERCOT's automated time tracking system for each of ERCOT's semi-  
19      monthly payroll cycles; (2) all time entered into the system is carefully reviewed  
20      and approved (or rejected) by the employee's supervisor; and (3) a premium is  
21      placed on the accuracy, completeness and timeliness of time tracking activity.

22  
23   **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY AT THIS TIME?**

24   **A.     Yes, it does.**

**Electric Reliability Council of Texas (ERCOT)****2009 System Administration Fee Application****Exhibit MP-1: Standard Chart of Accounts**

Line	Description	Account	Account Description
1	Cash	10111-0000	Bank One Controlled Disbursement
2	Cash	10130-0000	Chase Settlement Account
3	Cash	10131-0000	Chase Investment Account
4	Cash	10132-0000	Chase FlexBen - Discovery
5	Cash	10140-0000	Bank One Transaction Fees
6	Cash	10141-0000	Chase Fees Account
7	Cash	10170-0000	Bank One FlexBen Deposit
8	Cash	10180-0000	Bank One FlexBen Disbursement
9	Cash	10190-0000	CIGNA Flex
10	Cash	10201-0000	Reserve Fund - Operations
11	Cash	10231-0000	Reserve Fund - Market Settlement
12	Cash	10241-0000	Reserve Fund - Restricted
13			
14	Operations AR	12000-0000	AR - Settlements
15	Operations AR	12010-0000	AR - Settlement Transfer
16	Operations AR	12100-0000	AR - Non-Settlement Fees
17	Operations AR	12110-0000	AR - Not Billed
18	Operations AR	12150-0000	Allowance for Uncollectibles
19	Operations AR	12160-0000	Received Not Applied
20	Operations AR	12170-0000	AR - Congestion True-Up
21	Operations AR	12180-0000	AR - Prepay
22	Operations AR	12500-0000	AR - WAN Expenses Reimbursement
23	Operations AR	12520-0000	AR - Miscellaneous Expense Reimbursement
24	Operations AR	12540-0000	AR - Training Exp Reimbursement
25	Operations AR	12560-0000	AR - Texas RE
26	Operations AR	12900-0000	Miscellaneous Receivables
27			
28	Other Current Assets	13000-0000	Prepays
29	Other Current Assets	13005-0000	ERCOT Paid Employee Expense
30	Other Current Assets	13015-0000	Employee Expense Reimbursement Clearing

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
31	Other Current Assets	13025-0000	Humana Dental Claims Deposit
32	Other Current Assets	13026-0000	Life-Short-Term Disability Premium Deposits
33	Other Current Assets	13100-0000	Interest Receivable
34	Other Current Assets	13200-0000	Inventory
35	Other Current Assets	13310-0000	401k Forfeiture Account
36	Other Current Assets	13320-0000	MPP Forfeiture Account
37			
38	Fixed Assets	14000-0000	Systems Under Development
39	Fixed Assets	14001-0000	Systems Under Development - Accrual
40	Fixed Assets	14002-0000	Systems Under Development - Nodal Accrual
41	Fixed Assets	14050-0000	Systems Under Development - Nodal
42	Fixed Assets	14100-0000	Construction In Progress
43	Fixed Assets	14200-0000	General Work In Progress
44	Fixed Assets	15000-0000	Land & Land Rights
45	Fixed Assets	15005-0000	Blue Building - Taylor
46	Fixed Assets	15010-0000	Blue Building - Taylor Accumulative Depreciation
47	Fixed Assets	15012-0000	Control Center - Taylor
48	Fixed Assets	15013-0000	Control Center - Taylor Accumulative Depreciation
49	Fixed Assets	15065-0000	Vehicles
50	Fixed Assets	15070-0000	Vehicles Accumulative Depreciation
51	Fixed Assets	15100-0000	Furniture/Office Equipment
52	Fixed Assets	15110-0000	Furniture/Office Equipment Accumulative Depreciation
53	Fixed Assets	15200-0000	Leasehold - Met Center
54	Fixed Assets	15210-0000	Leasehold - Met Center Accumulative Depreciation
55	Fixed Assets	15300-0000	Hardware
56	Fixed Assets	15310-0000	Hardware Accumulative Depreciation
57	Fixed Assets	15320-0000	Desktop Hardware - Non Data Center
58	Fixed Assets	15325-0000	Desktop Hardware - Accumulative Depreciation
59	Fixed Assets	15330-0000	Data Center Hardware
60	Fixed Assets	15335-0000	Data Center Hardware Accumulative Depreciation
61	Fixed Assets	15340-0000	Network/Telecom Hardware
62	Fixed Assets	15345-0000	Network/Telecom Hardware Accumulative Depreciation

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
63	Fixed Assets	15350-0000	Software
64	Fixed Assets	15360-0000	Software Accumulative Depreciation
65	Fixed Assets	15400-0000	Capital Lease
66	Fixed Assets	15410-0000	Capital Lease Accumulative Depreciation
67	Fixed Assets	15600-0000	Furniture/Office Equipment - Nodal
68	Fixed Assets	15620-0000	Desktop Hardware - Non Data Center - Nodal
69	Fixed Assets	15630-0000	Data Center Hardware - Nodal
70	Fixed Assets	15640-0000	Network/Telecom Hardware - Nodal
71	Fixed Assets	15650-0000	Software - Nodal
72	Fixed Assets	15700-0000	Furniture/Office Equipment - Accumulative Depreciation - Nodal
73	Fixed Assets	15720-0000	Desktop Hardware - Non Data Center - Accumulative Depreciation - Nodal
74	Fixed Assets	15730-0000	Data Center Hardware - Accumulative Depreciation - Nodal
75	Fixed Assets	15740-0000	Network/Telecom Hardware - Accumulative Depreciation - Nodal
76	Fixed Assets	15750-0000	Software - Accumulative Depreciation - Nodal
77	Fixed Assets	15900-0000	Asset Clearing
78			
79	Other Long-Term Assets	16015-0000	Derivative Asset
80	Other Long-Term Assets	16020-0000	Deferred Regulatory Assets
81	Other Long-Term Assets	16100-0000	2002 Note Issue Cost
82			
83	Fees AP	20100-0000	Accounts Payable
84	Fees AP	20120-0000	Accounts Payable - Contingent Workforce Management
85			
86	Operations AP	20200-0000	PO Accrual
87	Operations AP	21000-0000	Accrued Fees
88	Operations AP	21001-0000	Accrued Construction In Progress Expense
89	Operations AP	21010-0000	Accrued Market Fees
90	Operations AP	21020-0000	Accrued Net Payroll
91	Operations AP	21030-0000	Accrued Vacation
92	Operations AP	21035-0000	Accrued Sick Pay
93	Operations AP	21037-0000	Accrued Bonuses
94	Operations AP	21040-0000	Accrued Medical Dental Vision

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
95	Operations AP	21050-0000	Accrued Long-Term Disability
96	Operations AP	21055-0000	Accrued Short-Term Disability
97	Operations AP	21060-0000	Accrued Life Insurance
98	Operations AP	21065-0000	FIT Withholding
99	Operations AP	21070-0000	Accrued Social Security
100	Operations AP	21080-0000	Accrued Medicare
101	Operations AP	21090-0000	Accrued FUTA
102	Operations AP	21100-0000	Accrued SUI
103	Operations AP	21110-0000	Accrued Pension - Market Participant
104	Operations AP	21120-0000	Accrued 401k - Company Match
105	Operations AP	21130-0000	Employee 401k - Withholding
106	Operations AP	21135-0000	Accrued 401k - Loan Repayment
107	Operations AP	21140-0000	Miscellaneous Employee Withholding
108	Operations AP	21145-0000	Accrued Employee Assistance Program
109	Operations AP	21150-0000	Accrued Commercial Paper Interest
110	Operations AP	21151-0000	Accrued 2007 Term Loan Interest
111	Operations AP	21152-0000	Accrued 2007 Revolver Interest
112	Operations AP	21155-0000	Accrued 2002 Note Interest
113	Operations AP	21166-0000	Accrued 2007 Term Loan Commitment
114	Operations AP	21167-0000	Accrued 2007 Revolver Commitment
115	Operations AP	21170-0000	Accrued Audit Fees
116	Operations AP	21180-0000	Accrued Property Taxes
117	Operations AP	21190-0000	Accrued Long Term Care
118	Operations AP	21200-0000	Accrued Child Support
119	Operations AP	22210-0000	Accrued Garnishments
120	Operations AP	22224-0000	2006 Accrued Flex Medical
121	Operations AP	22225-0000	2008 Accrued Flex Medical
122	Operations AP	22234-0000	2006 Accrued Flex Dependent
123	Operations AP	22235-0000	2008 Accrued Flex Dependent
124	Operations AP	22240-0000	Sales Tax Payable
125	Operations AP	22241-0000	Sales Tax Interest & Penalties
126	Operations AP	22299-0000	Accrued Miscellaneous



## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
127			
128	Other Current Liabilities	22000-0000	Loan Payable
129	Other Current Liabilities	22100-0000	Customer Refund Payable
130	Other Current Liabilities	22300-0000	INR Studies Advance Receipts
131	Other Current Liabilities	22310-0000	TCR/QSE Security Deposits
132	Other Current Liabilities	22315-0000	Market Settlement Liability
133	Other Current Liabilities	22316-0000	TCR Market Liability
134	Other Current Liabilities	22320-0000	Due to Generators
135	Other Current Liabilities	22400-0000	Deferred Membership Dues
136	Other Current Liabilities	22440-0000	Deferred Miscellaneous Income
137	Other Current Liabilities	22460-0000	Deferred Rent Credits - Current
138	Other Current Liabilities	22470-0000	Unbilled Rent Payable
139	Other Current Liabilities	22600-0000	Health Insurance Reserve
140	Other Current Liabilities	23050-0000	Deferred Contractual Obligation
141	Other Current Liabilities	23060-0000	Deferred Texas RE Revenue
142	Other Current Liabilities	23100-0000	2002 Note - Current Portion
143	Other Current Liabilities	23160-0000	2007 Term Loan - Current Portion
144	Other Current Liabilities	23170-0000	2007 Revolver - Current Portion
145			
146	Long-Term Liabilities	24460-0000	Deferred Rent Credits
147	Long-Term Liabilities	25000-0000	Draw on Bank Loans
148	Long-Term Liabilities	25015-0000	Derivative Liability
149	Long-Term Liabilities	25050-0000	Deferred Contractual Obligation
150	Long-Term Liabilities	25060-0000	Accrued Post Retirement Liability
151	Long-Term Liabilities	25070-0000	Deferred Regulatory Liability - Texas RE
152	Long-Term Liabilities	25080-0000	Deferred Regulatory Liability - Nodal
153	Long-Term Liabilities	25100-0000	2002 Note Payable
154	Long-Term Liabilities	25140-0000	2005 Term Loan Payable
155	Long-Term Liabilities	25150-0000	2007 Term Loan Payable
156	Long-Term Liabilities	25500-0000	Long Term Capital Lease Obligation
157			
158	Equity	30000-0000	Equity - Opening Balance

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
159	Equity	30998-0000	Error Suspense
160	Equity	30999-0000	Undistributed Retained Earnings
161	Equity	31000-0000	Retained Earnings
162			
163	Settlement Revenue	40000-0000	Ancillary Service
164	Settlement Revenue	40001-0000	Contra - Ancillary Service
165	Settlement Revenue	40020-0000	Out of Merit Capacity
166	Settlement Revenue	40021-0000	Contra - Out of Merit Capacity
167	Settlement Revenue	40030-0000	Out of Merit Energy
168	Settlement Revenue	40031-0000	Contra - Out of Merit Energy
169	Settlement Revenue	40040-0000	Congestion Management
170	Settlement Revenue	40041-0000	Contra - Congestion Management
171	Settlement Revenue	40060-0000	Imbalance Energy
172	Settlement Revenue	40061-0000	Contra - Imbalance Energy
173	Settlement Revenue	40080-0000	Transmission Congestion Rights
174	Settlement Revenue	40081-0000	Contra - Transmission Congestion
175	Settlement Revenue	40100-0000	Reliability Must Run
176	Settlement Revenue	40101-0000	Contra - Reliability Must Run
177	Settlement Revenue	40120-0000	Black Start
178	Settlement Revenue	40121-0000	Contra - Black Start
179	Settlement Revenue	40140-0000	Synchronous Condenser
180	Settlement Revenue	40141-0000	Contra - Synchronous Condenser
181	Settlement Revenue	40160-0000	Voltage Support
182	Settlement Revenue	40161-0000	Contra - Voltage Support
183	Settlement Revenue	40180-0000	Equalization Adjustment
184	Settlement Revenue	40181-0000	Contra - Equalization Adjustment
185	Settlement Revenue	40210-0000	Local Balancing Energy
186	Settlement Revenue	40211-0000	Contra - Local Balancing Energy
187	Settlement Revenue	41060-0000	Late Fee Charge
188	Settlement Revenue	41061-0000	Contra - Late Fee Charge
189			
190	Fees Revenue	41000-0000	ERCOT System Administration Fee

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
191	Fees Revenue	41010-0000	ERCOT Nodal Surcharge
192	Fees Revenue	41014-0000	NERC Electric Reliability Organization Fee
193	Fees Revenue	41015-0000	Texas RE - Non Statutory Revenue
194	Fees Revenue	41016-0000	Texas RE - Assessment Revenue
195	Fees Revenue	41017-0000	Texas RE - Penalty Revenue
196	Fees Revenue	41080-0000	Maps/Printing Fee
197	Fees Revenue	42000-0000	ERCOT Membership Dues
198	Fees Revenue	42040-0000	Registration Fee - Market Participant
199	Fees Revenue	42050-0000	WAN Services Revenue
200	Fees Revenue	42055-0000	ITPTA Revenue
201	Fees Revenue	42060-0000	Generation Interconnection
202	Fees Revenue	42065-0000	LSE Revenue
203	Fees Revenue	42080-0000	Miscellaneous Income
204			
205	Labor & Benefits	68000-0000	Payroll - Salaries & Wages
206	Labor & Benefits	68010-0000	Overtime Pay
207	Labor & Benefits	68011-0000	Vacation Pay
208	Labor & Benefits	68012-0000	Sick Pay
209	Labor & Benefits	68015-0000	Payroll Clearing
210	Labor & Benefits	68019-0000	Allocated Salaries
211	Labor & Benefits	68020-0000	Contra Labor for Capital Improvement Projects
212	Labor & Benefits	68021-0000	Internal Labor for Nodal
213	Labor & Benefits	68022-0000	Contra Labor for Nodal
214	Labor & Benefits	68030-0000	Bonus
215	Labor & Benefits	68032-0000	Reward/Recognition - Monetary
216	Labor & Benefits	68090-0000	Separation Benefits
217	Labor & Benefits	70000-0000	Employee Benefits
218	Labor & Benefits	70010-0000	Health Premiums
219	Labor & Benefits	70020-0000	Health Claims
220	Labor & Benefits	70030-0000	Dental Premiums
221	Labor & Benefits	70040-0000	Dental Claims
222	Labor & Benefits	70050-0000	Short-Term Disability

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
223	Labor & Benefits	70060-0000	Long-Term Care
224	Labor & Benefits	70070-0000	Life Premiums
225	Labor & Benefits	70080-0000	401k Match
226	Labor & Benefits	70090-0000	MPP Contributions
227	Labor & Benefits	71000-0000	Payroll Taxes - Social Security
228	Labor & Benefits	71020-0000	Payroll Taxes - FUTA
229	Labor & Benefits	71040-0000	Payroll Taxes - Medicare
230	Labor & Benefits	71060-0000	Payroll Taxes - SUI
231	Labor & Benefits	71080-0000	Payroll Federal Taxes
232	Labor & Benefits	71090-0000	Payroll & Benefit Fees
233	Labor & Benefits	71110-0000	PBO Service Cost
234	Labor & Benefits	71120-0000	PBO Interest Cost
235	Labor & Benefits	73400-0000	Miscellaneous Payroll Expense
236	Labor & Benefits	73420-0000	Payroll Cost Recovery
237			
238	Equipment & Tools	62080-0000	Equipment Maintenance
239	Equipment & Tools	63000-0000	Equipment Rental
240	Equipment & Tools	63025-0000	Hardware < \$1,000
241	Equipment & Tools	63030-0000	Software < \$1,000
242	Equipment & Tools	63040-0000	Miscellaneous Equipment Repairs
243	Equipment & Tools	63100-0000	Vehicle Maintenance
244	Equipment & Tools	63110-0000	Equipment & Tools < \$1,000
245	Equipment & Tools	73020-0000	Office Supplies
246	Equipment & Tools	73021-0000	Toner/Ink Cartridges
247	Equipment & Tools	73025-0000	Chemical Supplies
248			
249	Outside Services	65060-0000	Professional Fees - Operations
250	Outside Services	65062-0000	Professional Fees - Operations Expense
251	Outside Services	65065-0000	Default QSE Standby Fee
252	Outside Services	65070-0000	Professional Fees - Training
253	Outside Services	65071-0000	Professional Fees - Software Services
254	Outside Services	65072-0000	Professional Fees - Recruiting Services

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
255	Outside Services	65075-0000	Immigration Services
256	Outside Services	65080-0000	Contract Labor
257	Outside Services	65085-0000	Contract Labor - Continent Workforce Management
258	Outside Services	65180-0000	Legal Fees
259	Outside Services	65181-0000	Legal Services - Government Filings
260	Outside Services	65190-0000	Independent Board - Taxable Expenses
261	Outside Services	65191-0000	Independent Board - Non Taxable Expenses
262	Outside Services	65200-0000	Accounting/Audit Expenses
263	Outside Services	65201-0000	Special Audits
264			
265	Hardware & Software Expense	63020-0000	Software Support & Maintenance
266	Hardware & Software Expense	63021-0000	Renewable Software Licenses
267	Hardware & Software Expense	63022-0000	Hardware Support & Maintenance
268			
269	Rentals & Leases	67000-0000	Office Rental
270	Rentals & Leases	67005-0000	Land Rental
271	Rentals & Leases	67010-0000	Miscellaneous Rental
272	Rentals & Leases	67020-0000	Pass-Through Rentals
273	Rentals & Leases	67060-0000	Storage Rental
274			
275	Utilities	73120-0000	Electricity
276	Utilities	73124-0000	Natural Gas Service
277	Utilities	73126-0000	Sewer Service
278	Utilities	73128-0000	Fuel Oil
279	Utilities	73160-0000	Water/Gas/Sewer/Trash
280			
281	Telecommunications	73080-0000	Telephone - Local
282	Telecommunications	73085-0000	Telephone - Long Distance
283	Telecommunications	73090-0000	Telephone - Conference Calls
284	Telecommunications	73200-0000	Internet Service
285	Telecommunications	73201-0000	Web Conferencing
286	Telecommunications	73220-0000	Security Center Data/Voice Circuit

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
287	Telecommunications	73500-0000	WAN Service Cost
288			
289	Maintenance & Repair	73180-0000	Building Maintenance
290	Maintenance & Repair	73181-0000	Building Systems Maintenance
291	Maintenance & Repair	73182-0000	Grounds Maintenance
292	Maintenance & Repair	73183-0000	Custodial Service
293	Maintenance & Repair	73184-0000	Miscellaneous Services
294	Maintenance & Repair	73185-0000	Building Security Services
295			
296	Insurance Expense	66000-0000	Insurance Premiums
297	Insurance Expense	66040-0000	Insurance - Workers Compensation
298			
299	Employee Expenses	62040-0000	Professional Dues
300	Employee Expenses	65040-0000	Training - Registration Fees
301	Employee Expenses	65041-0000	Business - Registration Fees
302	Employee Expenses	65050-0000	College Education Reimbursement
303	Employee Expenses	65120-0000	Training - Mileage Reimbursement
304	Employee Expenses	65121-0000	Business - Mileage Reimbursement
305	Employee Expenses	73100-0000	Cellular Phone
306	Employee Expenses	73240-0000	Remote System Access
307	Employee Expenses	73280-0000	Training - Meals
308	Employee Expenses	73281-0000	Business - Meals
309	Employee Expenses	73290-0000	Business - Car Rental
310	Employee Expenses	73291-0000	Training - Car Rental
311	Employee Expenses	73300-0000	Training - Travel Other
312	Employee Expenses	73301-0000	Business - Travel Other
313	Employee Expenses	73305-0000	Training - Travel Airfare
314	Employee Expenses	73306-0000	Business - Travel Airfare
315	Employee Expenses	73310-0000	Training - Travel Lodging
316	Employee Expenses	73311-0000	Business - Travel Lodging
317	Employee Expenses	73330-0000	Business - Taxi, Bus or Other
318	Employee Expenses	73331-0000	Training - Taxi, Bus or Other

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
319	Employee Expenses	73350-0000	Business - Gasoline
320	Employee Expenses	73351-0000	Training - Gasoline
321	Employee Expenses	73355-0000	Business - Parking
322	Employee Expenses	73356-0000	Training - Parking
323	Employee Expenses	73510-0000	Business - Tips
324	Employee Expenses	73511-0000	Training - Tips
325	Employee Expenses	73620-0000	Smart Phone Allowance
326	Employee Expenses	73630-0000	Pager
327	Employee Expenses	73638-0000	Telephone - Hotel
328	Employee Expenses	73640-0000	Wireless PC Card
329	Employee Expenses	73650-0000	Internet - Hotel
330			
331	Other Expenses	61000-0000	Late Fee Payment
332	Other Expenses	61010-0000	Write Off Adjustments
333	Other Expenses	62000-0000	Dues
334	Other Expenses	62060-0000	Subscriptions & Publications
335	Other Expenses	65000-0000	Corporate Events
336	Other Expenses	65010-0000	Corporate Sponsorships
337	Other Expenses	65020-0000	Sponsored Meetings
338	Other Expenses	65025-0000	Texas RE Workshop Income
339	Other Expenses	65026-0000	Texas RE Workshop Expense
340	Other Expenses	65140-0000	Miscellaneous Expenses
341	Other Expenses	65150-0000	Discounts Taken
342	Other Expenses	65160-0000	Miscellaneous Moving Expenses
343	Other Expenses	65220-0000	Job Posting Advertising
344	Other Expenses	65240-0000	Recruiting Expense
345	Other Expenses	65250-0000	Temp-to-Hire Fees
346	Other Expenses	65310-0000	Freight
347	Other Expenses	65320-0000	Handling
348	Other Expenses	65330-0000	Scrap
349	Other Expenses	68040-0000	Relocation Benefit
350	Other Expenses	72000-0000	Postage (U.S. Postal Svc)

## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
351	Other Expenses	72001-0000	Express Shipping
352	Other Expenses	73000-0000	Report Printing
353	Other Expenses	73001-0000	Copying Services
354	Other Expenses	73002-0000	Stationary & Office Forms
355	Other Expenses	73015-0000	Reward & Recognition - Non Monetary
356	Other Expenses	73040-0000	Tax - Sales, Excise & Use
357	Other Expenses	73060-0000	Tax - Property
358	Other Expenses	73340-0000	Gain/Loss on Sale of Assets
359	Other Expenses	73440-0000	Operator Training Services
360	Other Expenses	73460-0000	Training Cost Recovery
361	Other Expenses	73505-0000	Bad Debt Expense
362	Other Expenses	73600-0000	Claim Settlements
363	Other Expenses	74000-0000	Efficiency Savings
364			
365	Allocations	68023-0000	Incremental Resource Allocation
366	Allocations	68026-0000	Support Department Allocation
367	Allocations	68027-0000	Facilities Department Allocation
368	Allocations	68028-0000	Information Technology Services Allocation
369			
370	Interest & Fees	65100-0000	Fees & Interest
371	Interest & Fees	73900-0000	Nodal Operating & Maintenance Interest Cost
372	Interest & Fees	73910-0000	2002 Note Interest
373	Interest & Fees	73911-0000	Capital Interest - 2002 Note Interest
374	Interest & Fees	73912-0000	Nodal Capital Interest - 2002 Note
375	Interest & Fees	73930-0000	2002 Note Issue Cost Amortization
376	Interest & Fees	73931-0000	Capital Interest - 2002 Note Issue Cost
377	Interest & Fees	73932-0000	Nodal Capital Interest - 2002 Note Issue Cost
378	Interest & Fees	73946-0000	Capital Interest - 2004/05 Term Note Issue Cost
379	Interest & Fees	73947-0000	Nodal Capital Interest - 2005 Loan Issue Cost
380	Interest & Fees	73950-0000	2004 Revolver Interest
381	Interest & Fees	73956-0000	Capital Interest - 2004/05 Revolver Issue
382	Interest & Fees	73957-0000	Nodal Capital Interest - Revolver Issue



## Electric Reliability Council of Texas (ERCOT)

### 2009 System Administration Fee Application

#### Exhibit MP-1: Standard Chart of Accounts

Line	Description	Account	Account Description
383	Interest & Fees	73960-0000	2005 Term Loan Interest
384	Interest & Fees	73961-0000	Capital Interest - 2005 Term Loan Interest
385	Interest & Fees	73962-0000	Nodal Capital Interest - 2005 Term Loan
386	Interest & Fees	73963-0000	2007 Term Loan Interest
387	Interest & Fees	73964-0000	Capital Interest - 2007 Term Loan
388	Interest & Fees	73965-0000	Nodal Capital Interest - 2007 Term Loan
389	Interest & Fees	73970-0000	Revolver Interest
390	Interest & Fees	73971-0000	Capital Interest - 2005 Revolver Interest
391	Interest & Fees	73972-0000	Nodal Capital Interest - Revolver
392	Interest & Fees	73975-0000	Fees
393	Interest & Fees	73980-0000	Bank Fees
394	Interest & Fees	73985-0000	Credit Card Interest & Fees
395	Interest & Fees	73990-0000	Capital Lease Interest
396			
397	Interest Income	42100-0000	Interest Income
398	Interest Income	42110-0000	401k - MPP Forfeiture Account Earnings
399	Interest Income	42120-0000	Finance Charge Income
400	Interest Income	42130-0000	Texas RE Interest Income
401			
402	Depreciation & Amortization	64000-0000	Depreciation Expense
403	Depreciation & Amortization	64002-0000	Depreciation Expense - Nodal
404	Depreciation & Amortization	64010-0000	Amortization Expense
405	Depreciation & Amortization	64100-0000	Furniture/Office Equipment Depreciation Expense
406			
407	Non-Operating Income	75000-0000	Non-Operating Income
408	Non-Operating Income	76000-0000	Derivative Valuation Change
409	Non-Operating Income	77100-0000	Texas RE - Regional Assessment Expense
410	Non-Operating Income	77200-0000	Texas RE - Surcharge Fee Income

**DIRECT TESTIMONY OF**

**STEVEN GRENDEL**

**DIRECTOR OF FACILITIES & SITE DEVELOPMENT**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF STEVEN GRENDEL**

2   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3   A.     My name is Steven Grendel. My business address is 2705 West Lake Drive,  
4           Taylor, Texas 76574.

5  
6   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

7   A.     I am employed by the Electric Reliability Council of Texas, Inc. ("ERCOT") as  
8           Director of Facilities & Site Development.

9  
10  **Q.     PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
11  **QUALIFICATIONS.**

12  A.     I earned Bachelor of Computer Engineering (1988) and Bachelor of Electrical  
13           Engineering (1986) degrees from the University of Missouri, Columbia. I have  
14           worked in the Texas electric industry since I completed college. During the more  
15           than twenty years I have been in the industry, I have developed extensive  
16           experience in information technology, project management, and the design,  
17           development and implementation of computer software and hardware. I began  
18           my career at TU Electric in Dallas and worked there until I joined ERCOT in  
19           1996. At TU Electric, I held positions as a hardware and software engineer and,  
20           at the time I left TU Electric, I was a Senior Engineer at TU's North Texas  
21           Security Center. I joined ERCOT in 1996 and managed the consolidation of the  
22           North Texas Security Center and South Texas Security Center into the single  
23           Security Center, now located in Taylor. I was promoted to the position of  
24           Technical Support Manager in 1997 and maintained overall responsibility for  
25           ERCOT's information technology organization. I was later named Director of  
26           Information Technology and Director of Technology Services at ERCOT. In  
27           December 2005 I was selected as Director of the Texas Nodal Integrated ERCOT  
28           Readiness & Transition project in December 2005. I became Director of the  
29           Facilities & Site Development department in July 2007.

1 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
2 **COMMISSION OF TEXAS?**

3 A. Yes, I submitted direct testimony in Docket No. 32686 (ERCOT's request for  
4 approval of the Nodal Program surcharge).  
5

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. My testimony supports ERCOT's request for a revised System Administration  
8 Fee ("SAF"). The focus of my testimony is twofold. First, my testimony  
9 substantiates the 2009 headcount and expenditures for the Facilities & Site  
10 Development organization. Second, my testimony provides information on  
11 developments affecting ERCOT's facilities that have a significant impact on  
12 ERCOT's facilities expenditures.  
13

14 **II. FACILITIES & SITE DEVELOPMENT DEPARTMENT**  
15 **HEADCOUNT AND EXPENDITURES**  
16

17 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF THE**  
18 **FACILITIES & SITE DEVELOPMENT DEPARTMENT WITHIN**  
19 **ERCOT.**

20 A. The Facilities & Site Development ("Facilities") department is a part of ERCOT's  
21 Corporate Administration division. The Facilities department is responsible for  
22 the following functions:

- 23 (1) planning, construction, operation, and maintenance of ERCOT's physical  
24 facilities;
- 25 (2) facility capacity planning and space utilization;
- 26 (3) support services for Data Center operations;
- 27 (4) organizing and leading health, safety, and emergency response initiatives;
- 28 (5) business continuity planning;
- 29 (6) managing shipping, receiving, and mail services; and
- 30 (7) providing general equipment (printing, copiers, fax machines, A/V  
31 equipment) and support for ERCOT meetings.

1   **Q.   WHAT FACTORS INFLUENCE THE FACILITIES DEPARTMENT'S**  
2   **STAFFING LEVELS?**

3   A.   Two primary factors drive the need for Facilities department personnel. First, the  
4       number of personnel working in, and the overall demand for, ERCOT facilities  
5       drives the need for facilities support personnel. The higher the number of  
6       employees and contractors on site, and the more meetings are scheduled, the more  
7       work there is for the facilities support staff. The volume of work is particularly  
8       high at the Data Center; because the Data Center is at full capacity, there are  
9       frequent moves, additions, and reconfigurations necessary to fulfill space needs.  
10      The increased headcount necessary for ERCOT to operate the Nodal market will  
11      accentuate the pressure on facilities support personnel. Second, facilities and  
12      business continuity planning activities require substantial commitments of time.  
13      These planning activities have been in high gear recently, and will remain so for  
14      several years to come. ERCOT is at capacity at both the Austin and Taylor Data  
15      Centers, and will continue to face space utilization challenges until new data  
16      center facilities are available. The lease for the Austin Met Center offices expires  
17      in 2011, and the ERCOT Board of Directors recently approved a plan for finding  
18      new rental space for offices and constructing a new Control Center and Data  
19      Center to replace the existing facilities at the Met Center in Austin. That process  
20      is now underway, and the Facilities department is heavily engaged in planning for  
21      ERCOT's future facilities.

23   **Q.   WHAT IMPACT DO THESE DEVELOPMENTS HAVE ON THE**  
24   **FACILITIES DEPARTMENT'S STAFFING NEEDS?**

25   A.   The Facilities department staff averaged 110% utilization per Full-Time  
26       Equivalent ("FTE") in 2007. Given the department's size, that adds up to one (1)  
27       FTE of additional workload. In addition, the demands on the data center,  
28       particularly those related to development of Nodal market systems, are so large  
29       and complex that the Facilities staff cannot cost-effectively handle all of the  
30       voice, data, fiber optic, and video cabling necessary for maintaining ERCOT's  
31       advanced networks.

1 **Q. HOW DID THE FACILITIES DEPARTMENT DEVELOP ITS**  
2 **PROPOSED HEADCOUNT FOR 2009?**

3 A. The Facilities department took part in the internal review of all ERCOT functions  
4 and positions known as the “deep dive” process. The “deep dive” process called  
5 on every department within each division to justify the need for all staff positions.  
6 ERCOT managers had to demonstrate that their staffing levels: (a) reflect all  
7 possible efficiencies going forward rather than simply repeating what was done in  
8 the past; and (b) are aligned with the new activities ERCOT is undertaking in the  
9 years ahead.

10 The Facilities department’s budget is driven primarily by the costs of labor and  
11 benefits. As discussed above, the increased utilization of ERCOT facilities, and  
12 the concurrent need to actively plan for major facilities replacements, are the  
13 major factors influencing the department’s headcount.  
14

15 **Q. IS THERE DOCUMENTATION TO SUPPORT THE FACILITIES**  
16 **DEPARTMENT’S DEEP DIVE ANALYSIS?**

17 A. Yes. The deep dive analysis for the Facilities department is attached to my  
18 testimony as Exhibit SG-1.  
19

20 **Q. HOW DID THE FACILITIES DEPARTMENT ESTABLISH ITS**  
21 **HEADCOUNT?**

22 A. The authorized headcount for the administration department remains unchanged  
23 from its 2008 level of 15 FTEs. The department faces significant challenges, and  
24 our deep dive analysis documented the need for the full complement of FTEs  
25 available for 2009.  
26

27 **Q. DOES THE FACILITIES DEPARTMENT PLAN TO UTILIZE OUTSIDE**  
28 **SERVICES TO ASSIST IN ITS WORK?**

29 A. Yes, for three specific tasks. First, we contract with a communications cabling  
30 firm to provide voice/data cabling services. The department includes one FTE  
31 who provides cabling services that arise in the normal course of business. In

1 many cases, however, the explosive growth of the advanced information systems  
2 associated with the Nodal market have overwhelmed our in-house capabilities.  
3 Without an outside provider of back-up cabling services, cabling requests would  
4 regularly be delayed in a way that could hold up completion of important projects.  
5 Second, ERCOT utilizes outside architectural services to plan and design new  
6 spaces within existing facilities (*e.g.*, TCC2 second floor build-out, construction  
7 of IMM/TRE space at Met Center). ERCOT needs these design services  
8 intermittently, and it would not be cost-effective to hire in-house staff with the  
9 necessary capabilities to perform them. Finally, ERCOT has included funding in  
10 its 2009 budget for the services of indoor environmental consultants to confirm air  
11 quality in ERCOT facilities. This is a safety concern because certain ERCOT  
12 facilities experience water penetration events and occasional water leaks that can  
13 negatively affect indoor air quality, particularly if mold problems develop.  
14 Confirmation of indoor air quality ensures that staff and ERCOT's many visitors  
15 are not exposed to unhealthy conditions in our facilities.

16  
17 **Q. HOW DID YOU DETERMINE THE BUDGETED AMOUNT FOR**  
18 **OUTSIDE SERVICES FOR THE FACILITIES DEPARTMENT?**

19 A. Generally, management determined that number by either: (1) estimating the  
20 number of hours of outside services required for a given project or task, or (2) if  
21 contemplated as fixed fee services, estimating costs based on prior experience. If  
22 calculated based on a time and materials basis, we multiplied the hours by an  
23 average hourly rate based on ERCOT's past experience with paying personnel  
24 with the required skill sets and background to perform the task.

25  
26 **Q. IN YOUR OPINION, IS THE BUDGETED SPENDING ON OUTSIDE**  
27 **SERVICES REASONABLE?**

28 A. Yes, the amount included in the 2009 budget for outside services is reasonable to  
29 accomplish the department's tasks for 2009.

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1 they are located. Buildings housing the Data and Control Centers must  
2 have structurally sound concrete construction and roof envelope able to  
3 withstand 125 mph winds. ERCOT Data and Control Centers should also  
4 have a physically securable 60 foot perimeter.

5 (2) Location issues: ERCOT facilities that host Market Participant meetings  
6 should be located relatively close to an airport to facilitate attendance by  
7 out-of-town participants. The Control Center should be located within 30-  
8 50 miles of Taylor to enable convenient and feasible access by the grid  
9 operators and related support staff. Data Centers should be within 30-50  
10 miles of one another and should consider factors such as distance from  
11 highways, power lines, and airports. More remote locations facilitate  
12 implementation of security measures, while urban settings are more  
13 favorable for those participating in ERCOT activities and for potential  
14 ERCOT employees.

15 (3) Legal/Regulatory limitations: Ideally, ERCOT's office space  
16 configuration would separate ERCOT's executive and administrative  
17 employees from the Independent Market Monitor ("IMM"), the Texas  
18 Regional Entity ("TRE") organization, and Market Participant groups.  
19 For legal, practical, and perception reasons, there must be physical  
20 separation between the space occupied by ERCOT Staff, the IMM, the  
21 TRE, and Market Participant groups. This consideration limits the space  
22 configurations that are acceptable for ERCOT space shared with the IMM  
23 and TRE staff.

24  
25 **Q. WHAT WERE THE RESULTS OF THE ANALYSIS BY OXFORD**  
26 **COMMERCIAL AND ERCOT STAFF?**

27 A. Oxford Commercial worked with ERCOT staff and Dunham Engineering to  
28 develop a forecast of ERCOT's space needs through 2021 (assuming a facilities  
29 lease/buy decision would involve a horizon of at least 10 years beyond the Met  
30 Center lease expiration). The analysis considered all of ERCOT's space and  
31 security needs, and used the recent deep dive analyses as an input for estimating

1 employee headcount. In conjunction with ERCOT staff, Oxford Commercial  
2 issued a report in January 2008 that identified a total of 12 options for action  
3 plans to be considered by ERCOT management and the Board of Directors. The  
4 relative costs of the 12 options were estimated consistently by calculating a 10-  
5 year Net Present Value (“NPV”) for each option.  
6

7 **Q. DID ERCOT ADOPT ONE OF THE ACTION PLANS PROPOSED IN**  
8 **THE REPORT?**

9 A. Yes. ERCOT management analyzed the 12 options and recommended the  
10 preferred option to the ERCOT Board of Directors. The Board of Directors  
11 considered and adopted the recommendation at its February 2008 meeting.  
12

13 **Q. PLEASE SUMMARIZE THE PLAN SELECTED BY THE BOARD OF**  
14 **DIRECTORS.**

15 A. The Board of Directors approved plan of action that allows the Met Center lease  
16 to expire in 2011 under its current terms. In the meantime, ERCOT will negotiate  
17 a new lease by 2010 for office space to accommodate ERCOT executive and  
18 administrative staff, the IMM, the TRE, and Market Participant meeting space.  
19 The new lease must permit move-in prior to the March 31, 2011 expiration of the  
20 existing Met Center lease. The plan contemplates construction of a new Control  
21 Center / Data Center that satisfies ERCOT’s documented requirements regarding  
22 security, location, availability, and capacity. The plan also involves expansion of  
23 the Taylor Data Center into existing raised floor space at the Taylor facility that  
24 was originally designed for use as part of the Data Center.  
25

26 **Q. WHY WAS THIS ACTION PLAN CHOSEN OVER THE OTHER**  
27 **OPTIONS?**

28 A. The option chosen has three key advantages. First, it meets the security, location,  
29 availability, and capacity requirements that are critical to ERCOT fulfilling its  
30 reliability and market management functions. Second, it presents the lowest 10-  
31 year net present value (“NPV”) profile of any of the options that met these

1 requirements. Third, it provides flexibility for dealing with increases in Data  
2 Center demand, and does not tie Austin office space options to the Met Center  
3 location.  
4

5 **Q. WHAT FINANCIAL IMPACT DOES ERCOT EXPECT ITS ACTION**  
6 **PLAN FOR FACILITIES TO HAVE ON ITS SYSTEM**  
7 **ADMINISTRATION FEE?**

8 A. ERCOT staff presented an estimate of the fee impact of the facilities action plan  
9 when it made its recommendation to the Board of Directors. The total NPV of the  
10 option chosen is \$78,174,100, which produces an average annual operations and  
11 maintenance impact of \$1,195,922. As with any expenditure, the impact on the  
12 ERCOT fee depends on whether the expenditure is funded on a “pay as you go”  
13 basis or is financed using debt. All other things being equal, a “pay as you go”  
14 approach to funding the construction of new Data Center and Control Center  
15 facilities and leasing new office space would have a \$0.09/MWh impact on the  
16 System Administration Fee. If the facilities plan was financed through capital  
17 project funding and repaid through 2017 (assuming approximately \$14 million in  
18 interest costs), the estimated fee impact would be between \$0.0267/MWh.  
19

20 **Q. ARE THE COSTS OF THE FACILITIES PLAN INCLUDED IN THE**  
21 **SYSTEM ADMINISTRATION FEE PROPOSED BY ERCOT TO**  
22 **SUPPORT 2009 BUDGET EXPENDITURES?**

23 A. Yes. The facilities plan adopted by the ERCOT Board of Directors finances the  
24 construction and leasing costs of implementation through a mix of revenue  
25 funding and debt. A significant portion of the costs of the facilities plan are  
26 included in ERCOT’s 2009 approved budget for capital projects. In addition,  
27 funding for facilities planning activities that were necessary in 2008 but not  
28 budgeted for that year are also recovered in the 2009 budget. It is my  
29 understanding that ERCOT seeks to recover those costs from the proposed  
30 System Administration Fee.  
31

- 1    **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**
- 2    A.     Yes, it does.



# ERCOT Organizational Deep Dive

## FACILITIES AND SITE DEVELOPMENT

Steve Grendel

Director – Facilities & Site Development

May 2008

- **Summary of Findings**
- **Organization Overview**
- **Tasks Analysis**



# Summary of Findings

# Summary of Staffing

Department	2008 Authorized	2009 Task Analysis	2009 Requested
<b>325 - Facilities</b>	<b>15</b>	<b>15.7</b>	<b>15</b>
<b>Total</b>	<b>15</b>	<b>15.7</b>	<b>15</b>

## Summary Points

1. The staffing levels for the facilities department take into consideration the use of contractors for projected peak work levels. Employee levels are set for projected steady state work loads
2. Approved head count for 2007/2008 increased by three to support increased employee, contractor and vendor numbers and to lead site development and business continuity roles
3. Additional employee requested and approved for 2008 to support the growth of ERCOT's datacenter work and to enable succession plan for facilities manager position and data center management role



# Factors that Drive Facilities Staffing Levels

- **Number of FTEs working out of ERCOT facilities**
  - Employees
  - Contractors, consultants & vendors
  - Volume of Market Participant meetings hosted either onsite or remotely by ERCOT
- **Data Center Capacity, Demand and Installations**
  - The capacity and demand related to ERCOT's data centers drives the staffing level of the facilities department
  - ERCOT is currently at capacity at both data centers which causes an increased volume of work to support data center move, adds and deletes
- **Site Development Activities**
  - ERCOT is currently at capacity at both the Austin and Taylor data centers
  - Seating demand projections related to the Nodal Market, the Independent Market Monitor and the Texas Regional Entity exceed ERCOT's current facility capacity
  - Planning activities have been initiated to address both the data center capacities and seating capacities and will impact the facilities work load through 2011
- **Business Continuity**
  - The Director of Facilities and Site Development is responsible for ERCOT's business continuity plan development, maintenance, testing and execution

- **2007 facilities staff averaged 110% utilization per FTE which is equivalent to 1 additional FTE (ERCOT average utilization is 105%)**
- **Current data center work has been limited to necessary operations and project related activities as insufficient staffing to perform maintenance activities**
  - Cable management
  - Inventory management
  - Aperture reporting
  - Building SCADA system updates
- **Investigating the use of contractors to perform data center maintenance activities and or the initiation of projects**
- **New - Business continuity planning role and MET Center disposition analysis and subsequent activities**

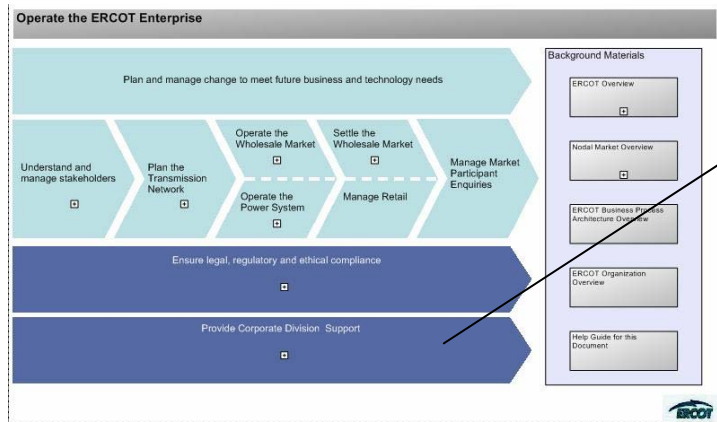


# Organization Overview

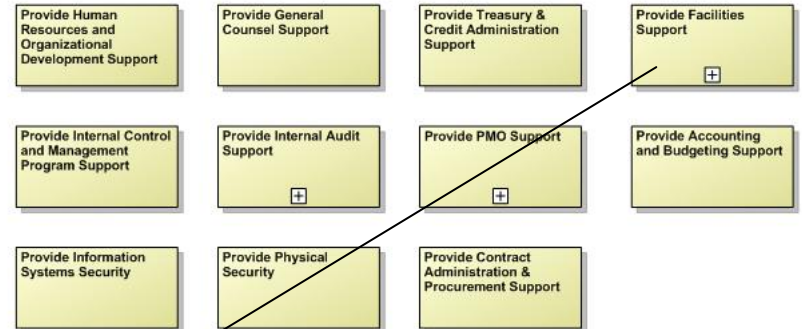
## **Facilities & Site Development (Steve Grendel)**

- Plan, Construct, Operate and Maintain ERCOT's facilities
- Support Data Center Operations
- Lead Health, Safety, Emergency Response
- Lead Business Continuity Planning
- Facility Capacity Planning and Space Utilization
- Manage Shipping, Receiving & Mail
- Provide General Equipment (A/V, Printing, Copier, Fax) and Meeting Support

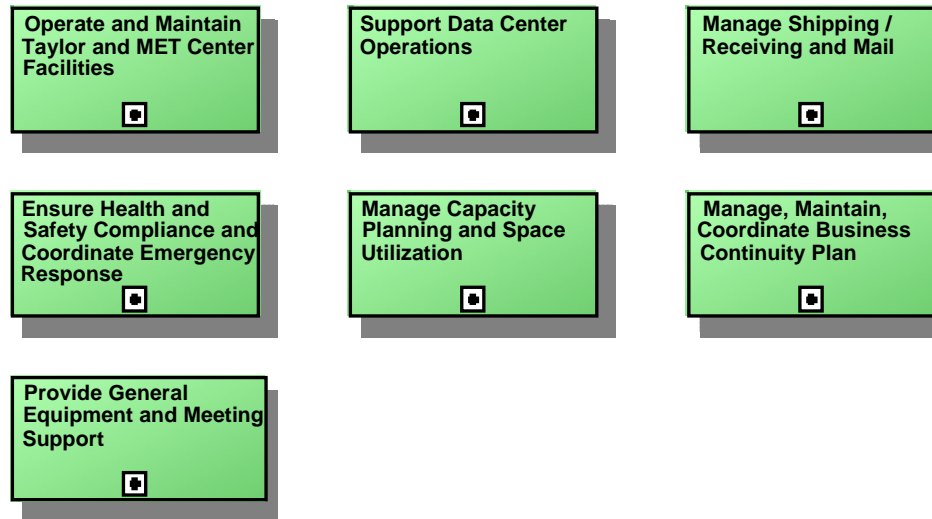
# Department 325 – Facilities Business Process Overview

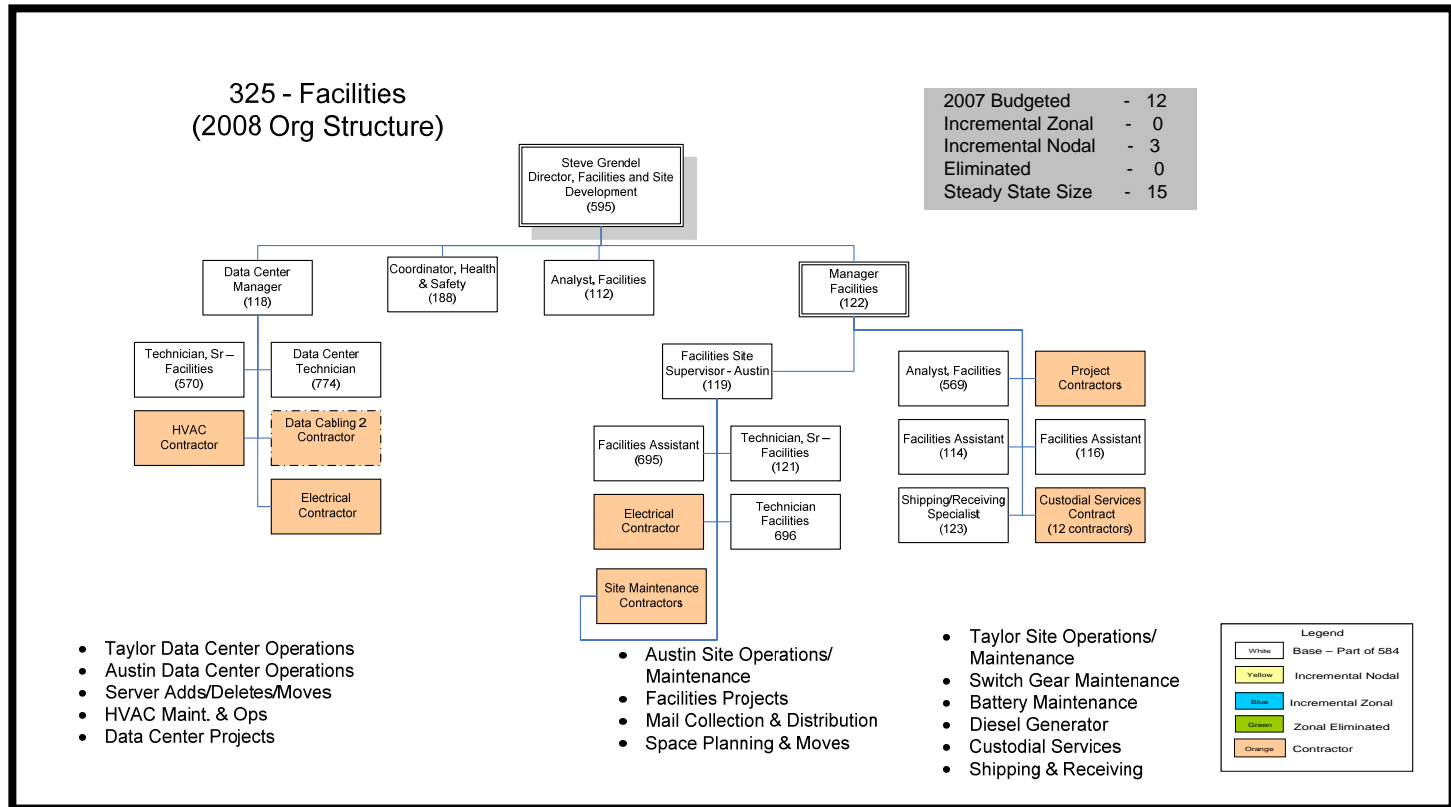


## Provide Corporate Support (Level 2)



## Provide Facilities Support (Level 3)





- **3 primary facility areas (Taylor, Austin & Data Centers)**
- **Contractors utilized for basic services and incremental work loads**
- **Facilities assistant converted back to FTE due to cost of contractor**

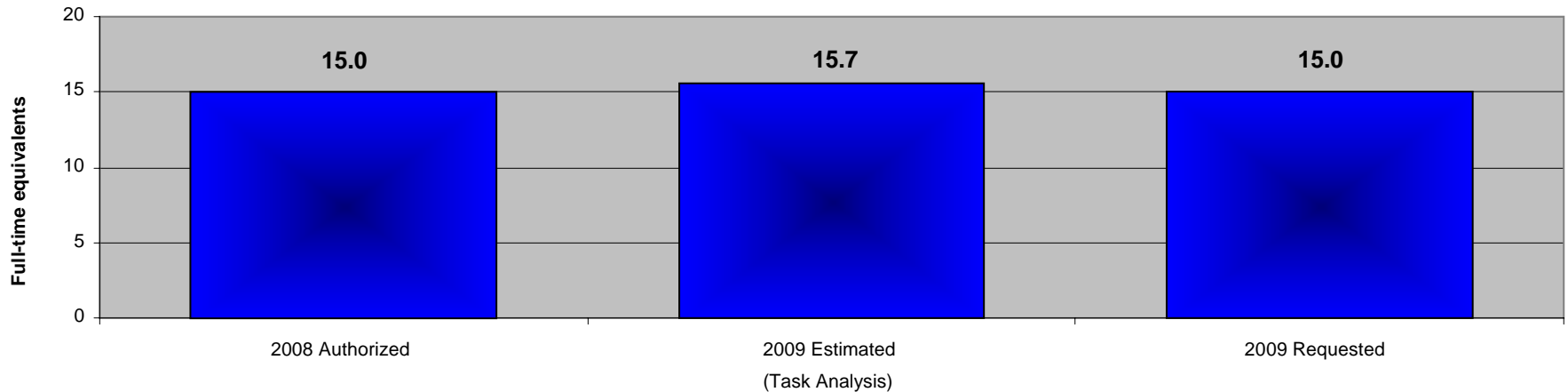
- **15 Authorized Positions in Facilities - 2008**

<b>Current</b>	<b><u>Grade</u></b>
– Director, Facilities and Site Development	O
– Manager, Facilities	L
– Facilities Analyst - 2	H
– Facilities Assistant – 2	A
– Coordinator, Health & Safety	I
– Supervisor, Facilities (Taylor)	J
– Shipping/Receiving Specialist	B
– Facilities Assistant	A
– Facilities Technician	D
– Sr. Facilities Technician	E
– Manager, Data Center	L
– Data Center Technician	J
– Sr. Facilities Technician	E



# Task Analysis



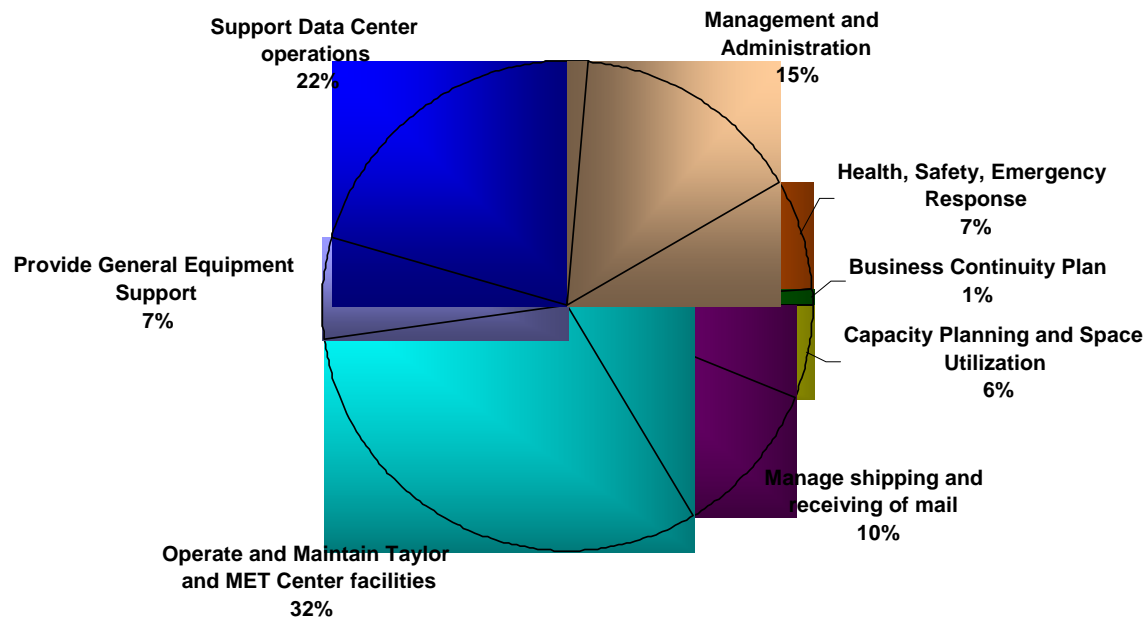


## Summary Points

- One additional FTE was added in 2008 due to projected work load and to allow succession plan for Facilities Manager and Data Center Management roles
- 0.7 FTE differential between “Current Headcount” and “2009 estimated” accounted for via overtime hours and use of OS

# 325 - Facilities

## Allocation by Function



### Key Points

- ❑ **7% of overhead & admin is leave time for staff**
- ❑ **Overview does not include outside services**

**DIRECT TESTIMONY OF**

**LARRY GRIMM**

**CHIEF EXECUTIVE OFFICER**

**TEXAS REGIONAL ENTITY, AN INDEPENDENT DIVISION OF**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**IN SUPPORT OF**

**ERCOT'S APPLICATION FOR APPROVAL OF**

**THE ERCOT SYSTEM ADMINISTRATION FEE**

1                                   **DIRECT TESTIMONY OF LARRY GRIMM**

2

3                   **I.       INTRODUCTION AND WITNESS QUALIFICATIONS**

4

5   **Q.     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

6   A.     My name is Larry Grimm. My business address is 7620 Metro Center Drive,  
7           Austin, Texas 78744.

8

9   **Q.     BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

10  A.     I am employed by the Texas Regional Entity Division of the Electric Reliability  
11           Council of Texas, Inc. (“ERCOT”) as the Chief Executive Officer (“CEO”) of  
12           Texas Regional Entity (“Texas RE”).

13

14  **Q.     PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**  
15  **QUALIFICATIONS.**

16  A.     I earned a Bachelor of Science in Electrical Engineering (1974) degree from the  
17           University of Texas at Austin. I have worked in the Texas electric industry since  
18           I completed college. During the more than 34 years I have been in the industry, I  
19           have extensive experience in electric power systems engineering and operations.  
20           I began my career at Houston Lighting & Power Company (“HL&P”) in 1974 and  
21           worked there until I joined Austin Energy in 1985. At HL&P, I held engineering  
22           positions in the areas of major electrical equipment and system protection  
23           (distribution and customer relaying). I joined Austin Energy in 1985 and worked  
24           there until I joined ERCOT in 1997. At Austin Energy, I held positions as Chief  
25           System Operator, Division Manager of System Control, and Manager of  
26           Generation Engineering and Bulk Power Planning. I joined ERCOT in 1997 as  
27           Principal Engineer and held positions as Deputy Director of Administration,  
28           Director of Coordination and Reports, and Director of Compliance. I was  
29           appointed to the position of Chief Compliance Officer for Texas Regional Entity  
30           in October 2007 and was named Chief Executive Officer Officer in May 2008.

1 **Q. HAVE YOU EVER TESTIFIED BEFORE THE PUBLIC UTILITY**  
2 **COMMISSION OF TEXAS?**

3 A. I may have testified on behalf of Austin Energy in the early 1990s, but otherwise I  
4 have not.

5  
6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. My testimony supports ERCOT's request for a revised System Administration  
8 Fee ("SAF"). The focus of my testimony is to substantiate the 2009 headcount  
9 and expenditures for the ERCOT Protocol and Operating Guide Compliance  
10 functions ("Non-statutory Activities") performed by Texas Regional Entity.

11 Please note that the majority of the Texas Regional Entity annual budget  
12 (approximately \$7 million) is for its performance of the federal standards  
13 development and compliance activities ("Statutory Activities") which are  
14 delegated to Texas Regional Entity by North American Electric Reliability  
15 Corporation ("NERC") and overseen by the Federal Energy Regulatory  
16 Commission ("FERC") pursuant to a Delegation Agreement between NERC and  
17 Texas Regional Entity. No funding for Texas Regional Entity's Statutory  
18 Activities is sought in this case, because these activities are not funded by the  
19 System Administration Fee. The Statutory Activities are funded by a FERC-  
20 approved fee paid pursuant to the Delegation Agreement that is separate from the  
21 ERCOT System Administration Fee.

22  
23 **II. TEXAS REGIONAL ENTITY HEADCOUNT AND EXPENDITURES**  
24

25 **Q. PLEASE DESCRIBE THE CURRENT RESPONSIBILITIES OF TEXAS**  
26 **REGIONAL ENTITY.**

27 A. The purpose of Texas Regional Entity, an independent division of ERCOT, is  
28 twofold. First, it is to fulfill its Statutory Activities obligations, in accordance  
29 with its Delegation Agreement and the NERC Rules of Procedure to:

1 (1) Monitor, report, and enforce compliance with NERC Reliability Standards  
2 by all users, owners, and operators of the bulk-power system in the  
3 ERCOT Region.

4 (2) Develop regional variances or standards which go beyond, add details to  
5 or implement NERC Reliability Standards.

6 Second, in order to fulfill its Non-Statutory Activity obligations (which are paid  
7 for by ERCOT's Systems Administration Fee), Texas Regional Entity acts in  
8 accordance with the Public Utility Commission ("Commission") Rules and the  
9 Commission-approved ERCOT Compliance Process to monitor and report  
10 compliance with ERCOT Protocols by all Market Participants in the ERCOT  
11 Region. Texas RE investigates, audits, and reports on compliance with the  
12 ERCOT Region reliability-based Protocols and Operating Guides ("Protocols")  
13 for the Commission. Texas Regional Entity coordinates with the Commission  
14 staff regarding enforcement of potential Protocol violations, and the Commission  
15 prosecutes any Protocol violations that result in enforcement actions. Due process  
16 is provided to any entity that is reported to have violated a Protocol, pursuant to  
17 state law, and the Commission makes all final decisions regarding Protocol  
18 violations.

19  
20 **Q. WHAT FACTORS INFLUENCE TEXAS REGIONAL ENTITY'S**  
21 **STAFFING LEVELS?**

22 A. There are a number of factors that drive the staffing level required for Texas  
23 Regional Entity. First is the time involved for preparation, completion, and  
24 reporting on the audits that are scheduled to review compliance. Staff and  
25 resources are required to properly prepare for, conduct, and report upon each  
26 audit. Second, Texas Regional Entity performs certain specific but routine  
27 compliance monitoring and generates monthly compliance reports for these  
28 metrics. Third, though not routine, when and if a significant event or incident is  
29 reported or occurs, Texas Regional Entity must perform a compliance analysis  
30 and, if warranted, must follow the event investigation process. Each compliance  
31 analysis is labor intensive and each investigation requires significant labor by the

1 investigative team, to conduct a thorough investigation. Fourth, the Texas  
2 Regional Entity staff must provide support for any Protocol compliance  
3 enforcement action initiated by the Commission. Finally, significant  
4 administrative labor and resources are required to properly manage and support  
5 the compliance monitoring, auditing, and assessment activities. If the amount of  
6 required compliance metrics is increased in the Nodal Protocols (which is not  
7 currently anticipated for 2009) or if the number of audits or events increase  
8 substantially (which is not anticipated for 2009), the amount of labor and  
9 resources required would increase.

10  
11 **Q. WHAT IMPACT DO THESE FACTORS HAVE ON TEXAS REGIONAL**  
12 **ENTITY'S STAFFING NEEDS?**

13 A. Texas Regional Entity Staff is averaging 109% utilization per Full-Time  
14 Equivalent ("FTE"), year-to-date 2008. Given the number of audits scheduled for  
15 2009, continued performance of the compliance monitoring and reporting  
16 functions, facilitating event analyses and investigations, providing support to the  
17 Commission for compliance enforcement related to Protocol compliance, and  
18 providing administrative support, Texas Regional Entity expects to utilize  
19 approximately 5.1 FTEs in 2009. This represents a reduction of .6 FTEs from the  
20 2008 budget of 5.7 FTEs. The reduction is based on time-tracking trends  
21 experienced by Texas RE year-to-date, 2008 and the factors stated above. The  
22 staffing needs of Texas RE are summarized in Exhibit LG-1 attached to my  
23 testimony.

24 The budget assumes that: (1) audits will occur; (2) the number of compliance  
25 analyses and Commission enforcement actions will be consistent with those  
26 experienced in 2007 and 2008; and (3) only one (1) potential major event  
27 investigation will be initiated in the ERCOT region. Any "event" reported to  
28 Texas RE by the ISO is reviewed.

29 **Q. HOW DID TEXAS REGIONAL ENTITY DEVELOP ITS PROPOSED**  
30 **HEADCOUNT FOR 2009?**

1 A. Texas Regional Entity conducted a task analysis by department and employee to  
2 determine the total labor hours required to fulfill all of the requirements for its  
3 many stakeholders. The resulting task analysis was summarized by tasks and  
4 hours for Statutory Activities and Non-Statutory Activities. The results of the  
5 task analysis identifying specific headcount by function are summarized in  
6 Exhibit LG-2 attached to my testimony.

7  
8 **Q. WHAT IS THE TOTAL AMOUNT OF NON-STATUTORY EXPENSES**  
9 **PROPOSED FOR THE 2009 BUDGET?**

10 A. Texas RE's 2009 Non-Statutory Budget is detailed in Exhibit LG-3 attached to  
11 my testimony. The total Non-Statutory Budget for 2009 is \$871,997. The total  
12 expense request for 2009 represents a 2.7% increase over the approved 2008 Non-  
13 Statutory Budget of \$848,782.

14  
15 **Q. WHAT IS THE TOTAL AMOUNT OF NON-STATUTORY TRAVEL**  
16 **EXPECTED TO BE INCURRED BY TEXAS RE FOR 2009?**

17 A. Whenever feasible, all required Protocol audits are performed in conjunction with  
18 NERC Reliability Standards Audits, in order to increase efficiency and decrease  
19 travel costs. In 2009, however, Texas RE expects to incur \$2,181 in travel costs  
20 which are related to one specific Protocol compliance audit of an entity that is not  
21 registered under the NERC Reliability Standards Compliance Program (this  
22 entity, therefore, will not have a NERC Reliability Standard Audit.). The amount  
23 budgeted for travel in 2009 represents a reduction of 51% from the approved  
24 travel budget in 2008, and the amount in the budget is appropriate for the  
25 anticipated expense to be incurred (Exhibit LG-3).

26  
27 **Q. WHAT IS INCLUDED IN THE AMOUNT REQUESTED FOR NON-**  
28 **STATUTORY CONTRACTS?**

29 A. Texas RE expects to incur \$38,200 in Non-Statutory support services (e.g. Human  
30 Resources, Finance, Treasury Services, Risk Management, Insurance, Board of  
31 Director Fees, etc.) from ERCOT ISO. Texas RE contracts with ERCOT for



1 these services under a Memorandum of Understanding (“MOU”) between Texas  
2 RE and ERCOT, Inc. I have attached the MOU with ERCOT, Inc. to my  
3 testimony as Exhibit LG-4. Under the MOU with ERCOT, the Texas RE’s share  
4 of administrative support service costs increases by approximately \$18,200 in  
5 2009.

6  
7 **Q. WHAT IS INCLUDED IN THE AMOUNT REQUESTED FOR NON-**  
8 **STATUTORY OFFICE RENT?**

9 A. As shown in Exhibit LG-3, Texas RE expects to incur \$80,000 in Non-Statutory  
10 office rent. The increase in office rent year-over-year is attributed to Texas RE’s  
11 plan to move from its current location to other office space later in 2008 and  
12 represents approximately a \$56,000 increase in Non-Statutory rent expense.

13  
14 **Q. WHAT IS INCLUDED IN THE AMOUNT REQUESTED FOR NON-**  
15 **STATUTORY OFFICE COSTS?**

16 A. Texas RE expects to incur less than \$500 in office supplies, postage and overnight  
17 shipping expenses for 2009. These are the specific charges that are likely to be  
18 incurred in support of Texas RE’s Non-Statutory activities. The budget request  
19 represents an 81% reduction to the budget year-over-year, but is appropriately  
20 budgeted for the expected level of support.

21  
22 **Q. WHAT IS INCLUDED IN THE AMOUNT REQUESTED FOR NON-**  
23 **STATUTORY PROFESSIONAL SERVICES?**

24 A. Texas RE expects to incur \$50,000 related to non-statutory legal expenses. The  
25 Non-Statutory professional services budget is also receiving a pro-rata allocation  
26 of systems related expenses with costs expected to total \$30,000. The systems  
27 related expenses include costs related to the hosting of Texas RE’s website as  
28 well as a pro-rata allocation of the expenses associated with the document  
29 management and data portal projects. Finally, the professional services budget  
30 anticipates that the Non-Statutory portion of the financial statement audit will  
31 total approximately \$9,000 for 2009. The budget request represents less than a

1 10% increase to the budget year-over-year, but is appropriately budgeted based on  
2 our allocation methodology.  
3

4 **Q. WHAT IS INCLUDED IN THE AMOUNT REQUESTED FOR NON-**  
5 **STATUTORY COMPUTER PURCHASE & MAINTENANCE?**

6 A. Texas RE's 2009 Non-Statutory computer purchase and maintenance budget is  
7 primarily related to the Information Technology (IT) allocation Texas RE is  
8 charged by ERCOT ISO through the MOU. The IT allocation is based on the  
9 total number of personnel employed by Texas RE and ERCOT ISO. Texas RE's  
10 IT costs are increasing because the rate charged by ERCOT ISO is increasing for  
11 2009.  
12

13 **Q. HAS TEXAS RE ESTABLISHED A CONTINGENCY BUDGET FOR**  
14 **UNKNOWN EXPENSES?**

15 A. Yes. Texas RE's 2009 Non-Statutory Budget does include a line item  
16 establishing a \$30,000 contingency budget. The contingency budget will be held  
17 in reserve to allow for unknown/unanticipated expenditures (e.g. legal, software,  
18 technology, etc.). In total, the contingency amounts to less than 4% of the total  
19 budget.  
20

21 **Q. IN YOUR OPINION, IS TEXAS RE'S PROPOSED 2009 BUDGET**  
22 **REASONABLE & SUFFICIENT TO PERFORM ITS OBLIGATED**  
23 **TASKS?**

24 A. Yes, the amounts included in the 2009 budget are reasonable and sufficient to  
25 accomplish Texas RE's obligated tasks, provided the assumptions stated above do  
26 not change significantly.  
27

28 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

29 A. Yes, it does.  
30  
31

## EXHIBIT LG-1

Total FTE's by Program Area	Budget 2008	Budget 2009	Change from Projection
<b>NON-STATUTORY</b>			
<b>Operational Programs</b>			
Protocol	3.2	3.9	0.7
<b>Total FTEs Operational Programs</b>	<b>3.2</b>	<b>3.9</b>	<b>0.7</b>
<b>Administrative Programs</b>			
General & Administrative	2.0	0.9	-1.1
Legal	0.5	0.3	-0.2
<b>Total FTEs Administrative Programs</b>	<b>2.5</b>	<b>1.2</b>	<b>-1.3</b>
<b>Total FTEs</b>	<b>5.7</b>	<b>5.1</b>	<b>-0.6</b>

## EXHIBIT LG-2

<b>Texas Regional Entity Non-Statutory Fiscal Year 2009 Planning Template Staff Planning Summary</b>		
	<b>Activity Code Percent (e.g. 5%, 10%, 15%, etc.)</b>	<b>FTE</b>
<b>Non-Statutory</b>		
TRE-5000—Protocol G&A	2.2%	0.7
TRE-5200—Protocol Legal	1.4%	0.5
TRE-5300—Protocol PRR & NPRR Review	0.9%	0.3
TRE-5400—Protocol Compliance	6.9%	2.2
TRE-5401—Protocol Compliance Audits	4.4%	1.4
<b>Total Protocol / Non-Statutory Staff</b>		<b>5.1</b>

EXHIBIT LG-3

**Statement of Activities  
2008 Budget and 2009 Budget**

**NON-STATUTORY**

	2008 Budget	2009 Budget	2009 Budget Variance to 2008 Budget Over(Under)
<b>Funding</b>			
Revenue	\$ 848,782	\$ 871,997	\$ 23,215
<b>Total Funding</b>	<b>\$ 848,782</b>	<b>\$ 871,997</b>	<b>\$ 23,215</b>
<b>Expenses</b>			
<b>Personnel Expenses</b>			
Salaries	\$ 524,494	\$ 448,080	\$ (76,414)
Payroll Taxes	43,533	35,846	(7,687)
Benefits	62,939	45,942	(16,997)
Retirement Costs	61,366	64,972	3,606
<b>Total Personnel Expenses</b>	<b>\$ 692,332</b>	<b>\$ 594,840</b>	<b>\$ (97,492)</b>
<b>Meeting Expenses</b>			
Meetings	\$ -	\$ -	\$ -
Travel	3,900	2,181	(1,719)
Conference Calls	-	-	-
<b>Total Meeting Expenses</b>	<b>\$ 3,900</b>	<b>\$ 2,181</b>	<b>\$ (1,719)</b>
<b>Operating Expenses</b>			
Consultants	\$ -	\$ -	\$ -
Contracts *	20,000	38,200	18,200
Office Rent *	24,000	80,000	56,000
Office Costs	2,550	480	(2,070)
Professional Services	82,000	89,900	7,900
Computer Purchase & Maint. *	24,000	36,396	12,396
Furniture & Equipment	-	-	-
Miscellaneous	-	-	-
Contingency	-	30,000	30,000
<b>Total Operating Expenses</b>	<b>\$ 152,550</b>	<b>\$ 274,976</b>	<b>\$ 122,426</b>
<b>Other Non-Operating Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Expenses</b>	<b>\$ 848,782</b>	<b>\$ 871,997</b>	<b>\$ 23,215</b>
<b>Change in Assets</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

\* The 2008 budget combined the Facilities, Support Services and IT Charges (which are paid to ERCOT) under the Office Rent category. We have allocated the expenses in 2008's approved budget for presentation purposes in showing the variances year over year.



**MEMORANDUM OF UNDERSTANDING BETWEEN  
ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.  
AND TEXAS REGIONAL ENTITY**

**Exhibit LG-4**

**Effective: January 1, 2008**

**I. Introduction**

Electric Reliability Council of Texas, Inc. (ERCOT) and Texas Regional Entity (Texas RE), an independent division of ERCOT, hereby enter into this Memorandum of Understanding (MOU) to set forth the agreed terms and conditions relating to the provision of administrative support services conducted by ERCOT staff for Texas RE.

To provide beneficial context and help comprehension, the elements of the MOU are grouped into three categories:

1. Texas RE Organization and Operations
2. Significant Accounting Policies
3. Detailed Transaction Accounting

**II. Texas RE Organization and Operations**

A. Texas RE performs two functions:

1. Statutory functions. Oversees development of and enforces compliance with North American Electric Reliability Corporation (NERC) Reliability Standards in the ERCOT Region (under federal law – EPCRA – also referred to as “Delegated Activities”), and
2. Non-statutory functions. Monitors, assesses, investigates, and reports on compliance with the ERCOT Protocols and Operating Guides (under Texas state law – Public Utility Regulatory Act (PURA) - also referred to as “PURA Compliance”).

B. Texas RE is an independent division of ERCOT, and Texas RE staff operates independently of ERCOT staff. Significant steps have been taken to clarify and demonstrate Texas RE’s independence from ERCOT, including the following:

1. The corporate Bylaws specify the independence and governance structure of the Texas RE division.
2. Texas RE has executed an Amended and Restated Delegation Agreement with NERC, which is the Electric Reliability Organization (ERO) certified by the Federal Energy Regulatory Commission (FERC).
3. The Delegation Agreement requires Texas RE to perform Statutory functions and authorizes Texas RE to perform Non-statutory functions.

4. The Delegation Agreement requires Texas RE to prepare an annual Business Plan and Budget which is separate from the annual budget prepared by ERCOT.
  5. Texas RE staff members must sign a Texas RE Ethics Agreement, agreeing to comply with ERCOT's code of conduct and conflict of interest, and confidentiality standards, and with the NERC Rules of Procedure.
  6. Texas RE staff members are technically ERCOT employees but report to the Texas RE chief executive officer and Chief Compliance Officer (CCO), who reports administratively to the Texas RE Board of Directors. Texas RE staff members do not report to or through the ERCOT CEO or any other ERCOT officers.
  7. Texas RE staff occupies a separate secured area from ERCOT staff, which is currently located in ERCOT's Austin Met Center facility.
  8. Texas RE staff possesses discretely formatted physical security access badges and have electronic access to a separate secure computer network drive.
  9. Administrative activity of Texas RE is overseen by the Texas RE Board of Directors, which conducts all meetings separately from the ERCOT Board and committee meetings.
  10. Texas RE and ERCOT will attempt to resolve any concerns or disputes through cooperation and then via escalation within their respective organizations. Any remaining disputes or disagreements will be presented to the Boards of Directors or the appropriate Board committee for resolution.
  11. Texas RE has hired an independent attorney (Director, Legal Affairs who reports to the CCO) and has retained independent outside legal counsel not associated with ERCOT.
  12. A separate filing system has been established for Texas RE invoices and accounting records.
- C. For administrative ease and in the interest of responsible cost control, ERCOT and Texas RE have agreed that Texas RE personnel will adhere to ERCOT policies, standards, and procedures (unless Texas RE has a specific applicable separate policy, standard or procedure). Both organizations have consistent codes of conduct, confidentiality, and conflicts standards.

### **III. Significant Accounting Policies**

- A. Texas RE financial statements are prepared based on GAAP.
- B. The characteristics of Texas RE's transactions and relationship with NERC do necessitate regulatory accounting (FAS 71).
- C. The characteristics of Texas RE's transactions do not necessitate utilization of Other Comprehensive Basis of Accounting (OCBOA).

- D. Activity of Texas RE is recorded using ERCOT's standardized chart of accounts. However, the standard chart of accounts is cross referenced to the NERC System of Accounts (NSOA) (Exhibit 5: NERC System of Accounts). In addition, all Texas RE transactions are coded to one of two functional categories: Rules of Procedure (Statutory activity) or Other (Non-statutory activity).
- E. All Texas RE activity is recorded to one of a series of organizational departments deemed necessary by Texas RE. Texas RE currently has the following departments: Compliance Enforcement, Compliance Assessment, Standards Development, Finance, Information Technology, and Legal and Regulatory Affairs.
- F. Regarding delegated signature authority, Texas RE personnel generally will have signature authority consistent with provisions of ERCOT's Delegated Signature Authority Corporate Standard. More specifically, the Texas RE CCO has the same signature authority as ERCOT's CEO; Texas RE's Director, Legal Affairs will approve the CCO's time and requests for reimbursement of business expenses; and other Texas RE personnel will have signature authority based upon their employment grade.

#### **IV. Detailed Transaction Accounting**

##### **A. Accounting for balance sheet transactions.**

###### **1. Cash.**

- a. Texas RE cash payments and cash receipts will be managed by ERCOT treasury personnel as a part of ERCOT's comprehensive cash management program.
- b. Texas RE cash payments and cash receipts will be accounted for and tracked discretely from other ERCOT transactions.

###### **2. Accounts Receivable.**

- a. At the beginning of each calendar quarter, it is expected Texas RE will have a receivable from ERO equal to 25% of Texas RE's annual budget as approved by ERO and by FERC as a component of ERO's annual budget.
- b. Texas RE may also have intermittent receivables relating to penalties and special assessments against registered entities.

###### **3. Fixed Assets.**

- a. Texas RE is not expected to have assets; however, on occasion it may be necessary for Texas RE to acquire or construct assets.
- b. Computers and related hardware are assumed provided by ERCOT's Information Technology division and covered by allocation of information technology costs to Texas RE (discussed later in this MOU).

- c. Furniture, fixtures, tools, and equipment are assumed provided by ERCOT's facilities staff and the cost of usage by Texas RE personnel covered by a "Facilities Services Cost Allocation" or "Information Technology Service Cost Allocation" (discussed later in this MOU).

4. Accounts Payable and Accrued Liabilities.

- a. Texas RE vendor invoices and payments are processed by ERCOT's Accounting division.
- b. Texas RE vendor invoices are accounted for discretely as Texas RE transactions.
- c. Texas RE's account payable liability will be determined based on the discrete account coding distribution used to identify Texas RE transactions.

5. Debt.

- a. Texas RE is not expected to have debt borrowing.
- b. It is unlikely (due to the cash reserves maintained by Texas RE), but on occasion, Texas RE may require short-term borrowing for working capital and liquidity purposes. In such instances, it is assumed Texas RE will acquire needed funding from ERCOT. The transactions will be discretely accounted for and will clearly document a "due to ERCOT" liability on Texas RE financial schedules.

B. Accounting for Income Statement Transactions.

1. Revenue.

- a. Texas RE is expected to have three possible revenue sources:
  - i. Quarterly funding from the ERO, pursuant to the Delegation Agreement
  - ii. Penalty assessments
  - iii. Special assessments
- b. Texas RE is not a party to transactions relating to ERCOT's billing, collection, and processing of the ERO fee (assessed as \$0.0169 per MWh in 2007 in the ERCOT Region).

2. Salaries and Related Benefits.

- a. Texas RE personnel are employees of ERCOT and receive the same benefits as those made available to all ERCOT employees.
- b. Texas RE personnel are assigned to one of the departments established for the Texas RE division.



- c. Texas RE personnel will track time as Statutory or Non-statutory, as appropriate, to enable correct budgetary allocation under the Delegation Agreement.
  - d. Salary and employee benefit expenses will be recorded based on detailed time tracking information submitted by Texas RE employees and approved by Texas RE management.
- 3. Facility and Equipment Cost.
  - a. Most costs in this category will be allocated to Texas RE following the Facilities Service Cost Allocation (discussed later in this MOU).
  - b. If conference space required for planned Texas RE meetings is not available on ERCOT premises, the meetings will be arranged to be conducted at an offsite conference room facility acceptable to Texas RE personnel. The full cost of such meetings scheduled at third party operated conference facilities will be charged to Texas RE.
  - c. Conference space at ERCOT premises will be scheduled on a first come-first served basis. Texas RE will not be given preferential status when scheduling conference rooms and neither will Texas RE be at a disadvantage, relative to other employees of ERCOT, when attempting to schedule conference rooms in ERCOT facilities.
  - d. Other facility and equipment costs not covered by the Facilities Service Cost Allocation will be evaluated and accounted for on a transaction-by-transaction basis.
- 4. Consulting and Contractor Fees.
  - a. Texas RE will recognize contractor and consultant expenses based on purchase order and contract agreements Texas RE personnel authorize and execute.
- 5. Outside Legal Fees.
  - a. Texas RE will recognize outside legal expenses based on contract agreements and invoices Texas RE personnel execute and authorize.
- 6. External Audit.
  - a. Texas RE will be assessed the full incremental cost charged to ERCOT by ERCOT's independent audit firm for conducting audit testing and providing an audit opinion on Texas RE transactions, financial reports filed with NERC or FERC, or Texas RE financial statements.
- 7. Administrative and Other.



- a. Texas RE will recognize administrative and other costs as authorized and approved by authorized Texas RE personnel.
8. Interest.
  - a. Texas RE will be credited with interest income based on Texas RE's average monthly cash balance and ERCOT's actual average monthly interest rate for the total of all ERCOT cash deposits.
9. Insurance.
  - a. Texas RE will be assessed an allocated share of ERCOT insurance expense as a component of the Treasury and Credit (discussed later in this MOU).
10. Employee Expense Reimbursement.
  - a. Texas RE will recognize employee business reimbursement expenses as they are incurred by Texas RE employees and approved for payment by Texas RE managers.
  - b. Expense reimbursement requests submitted by the Texas RE CCO will be approved by Texas RE's Director of Legal Affairs.
  - c. Texas RE personnel will follow the ERCOT Business Expense Reimbursement Corporate Standard.
11. Board of Director Fees.
  - a. Unless the Board determines otherwise:
    - i. Texas RE will be assessed one-fourth of the annual retainer paid to ERCOT's unaffiliated Directors.
    - ii. Texas RE will be assessed one-fourth of reimbursable business expenses submitted by Board members.
    - iii. Texas RE will be assessed the applicable Texas RE Board and/or Committee Meeting fee (or Special Texas RE Board or Committee Meeting fee) for any such meeting; provided, however, that if the Board or Committee also meets on the same day for an ERCOT Board or Committee meeting, Texas RE will be assessed only one-fourth of such fee.
12. Support Department Allocations.
  - a. Treasury and Credit
    - i. ERCOT's Treasury and Credit personnel provide a variety of services benefiting Texas RE including providing liquidity, cash management,

check signing, financial wire processing, and risk management services.

- ii. The cost allocation for the services will be \$72,000 per year (\$6,000 per month).
- iii. See Exhibit 1 for additional background information regarding the Treasury and Credit allocation.

b. Human Resources

- i. ERCOT's Human Resource personnel provide a variety of services benefiting Texas RE including recruitment and hiring, performance management, employee benefit administration, and employee training.
- ii. The cost allocation for base Human Resources services will be \$113 per employee per month.
  - (1) Assuming Texas RE maintains 25 employees each month in 2008, the annual base allocation to Texas RE would total approximately \$33,900.
  - (2) Assuming Texas RE maintains 30 employees each month in 2009, the annual base allocation to Texas RE would total approximately \$40,680.
- iii. Texas RE will also be allocated a recruiting charge for each new Texas RE staff member recruited by Human Resources staff or contractors. The charge allocated will be \$7,500 for each full-time position and \$3,750 for each intern position recruited by Human Resources. Texas RE management may elect to use an independent firm to recruit certain Texas RE positions. Texas RE will not be allocated a recruiting charge for positions for which ERCOT Human Resources staff is not involved in the recruiting process.
- iv. See Exhibit 2 for additional background information regarding the Human Resources allocation.

c. Procurement, Contract Negotiation, Administration and Strategic Sourcing

- i. ERCOT's procurement personnel provide a variety of services benefiting Texas RE including strategic sourcing of goods and services, vendor management, and contract negotiation and administration services.
- ii. The cost allocation for the services will be \$44 per month per contract administered, \$512 per month per purchase order issued following a request for proposal, and \$20 per month per purchase order not following a request for proposal.

- iii. See Exhibit 3 for additional background information regarding the procurement, contract administration, and strategic sourcing allocation.
- d. Accounting, Budget, Financial Analysis, and Payroll (ERCOT Department 114).
  - i. ERCOT's accounting, budget, and payroll personnel provide a variety of services benefiting Texas RE including financial statement preparation, regular and ad-hoc financial analyses, periodic and ad-hoc regulatory (federal and state) filing preparation, budget coordination and preparation, participation in ERO sponsored financial and budget meetings, payroll administration and processing, time tracking monitoring and reporting, vendor payments, billing and accounts receivable transaction processing, reimbursement of Texas RE business expenses incurred by Texas RE staff.
  - ii. The cost allocation for the services will be \$48,000 per year (\$4,000 per month).
  - iii. During 2008, ERCOT's Controller, Accounting Manager, Accounting Supervisor, and Budget Manager are expected to commit significant time and effort to the development, creation, and maintenance of unique accounting codes to support Texas RE. Time spent by these individuals on such organizational initiatives will be discretely tracked and charged to Texas RE at the standard labor rate (\$65 per hour). The time submitted must be approved by Texas RE management.
  - iv. See Exhibit 4 for additional background information regarding the accounting, budget, financial analysis, and payroll allocation.
- e. Facilities Services Cost Allocation.
  - i. ERCOT's facilities, physical security, and telecommunications network personnel provide a variety of services benefiting Texas RE including leased office space, rented storage space, utilities (electricity, water and wastewater service, fuel oil for backup generators, natural gas, and trash services), telecommunications services (local and long distance telephone service, conference bridge and conference call services, and Internet connectivity), maintenance services (building maintenance, grounds maintenance, custodial services, and building security services), office space remodeling, and office equipment.
  - ii. The facilities service cost allocation will be assessed as \$27.37 per year per square foot (\$2.28 per month per square foot) of space allocated to Texas RE.
    - (1) Based on current space utilization, it is expected the Facilities Service Cost Allocation to Texas RE will total approximately \$118,000 per year.

- iii. See Exhibit 5 for additional background information regarding the facilities allocation.
- f. Information Technology Services Cost Allocation
- i. Employees of Texas RE will make use of software applications and hardware assets that are made available to all ERCOT staff but centrally administered by ERCOT's Information Technology (IT) staff. One significant cost incurred to provide hardware and software assets for the benefit and efficiency of ERCOT staff, including employees of Texas RE, relates to the proper maintenance and licensing of the hardware and software.
  - ii. The IT allocation will be approximately \$8,200 per Texas RE employee per year. Assuming Texas RE has 25 employees in 2008, the annual allocation to Texas RE would total approximately \$205,000, and assuming Texas RE has 30 employees in 2009, the annual allocation to Texas RE would total approximately \$246,000.
  - iii. See Exhibit 6 for additional background information regarding the Information Technology allocation.
- g. ERCOT personnel assigned to ERCOT departments other than those detailed above may also provide support to Texas RE. However, rather than systematically allocate a portion of the cost of such personnel to Texas RE, the appropriate support costs will be determined and charged to Texas RE on a case-by-case basis.
- h. Any additional administrative services requested of, agreed to, and approved by ERCOT and Texas RE will be billed to Texas RE at the standard rate of \$65 per hour, which includes reimbursement for salary and benefits of the ERCOT staff person providing the services.
- i. Other services requested by Texas RE will be priced as agreed by the ERCOT CFO and the Texas RE CCO.
- j. Allocation amounts detailed above are valid in 2008 and for as long as Texas RE primarily conducts its business activity in ERCOT's Met Center facility and has no material changes to its staffing level, space needs, or service needs and ERCOT has no significant change in the costs incurred to provide services to Texas RE.
- k. Allocation amounts established are subject to change if Texas RE vacates the Met Center facility, has a material change to its staffing level, space needs, or requires a material change in the level of service provided by ERCOT's support department personnel and ERCOT has no significant change in the costs incurred to provide services to Texas RE.
- l. Allocation amounts established may be adjusted or cancelled given 60-day's notice and the agreement of the ERCOT CFO and the Texas RE CCO.



## V. General Provisions

- A. ERCOT and Texas RE will commit to accomplish all provisions in this MOU to the best of their ability, in a commercially reasonable manner.
- B. This MOU is intended only to address how support services and other activities provided by ERCOT staff to Texas RE should be captured and presented in accounting records. This MOU is not intended to direct or bind any person outside ERCOT or Texas RE.
- C. This MOU neither expands nor is it in derogation of those powers and authorities vested in ERCOT or Texas RE by applicable law.

## VI. Principle Contacts

ERCOT and Texas RE designate the contacts identified below. ERCOT or Texas RE may change their contact upon notice to the other party.

## VII. Effective Date and Duration:

This MOU is effective January 1, 2008. It shall continue to be in effect until terminated by ERCOT or Texas RE.

Bob Kahn  
President & CEO  
Electric Reliability Council of Texas, Inc.  
BKahn@ercot.com

Date: 6/13/08



Larry Grimm  
Chief Executive Officer & CCO  
Texas Regional Entity, an independent division of  
Electric Reliability Council of Texas, Inc.  
Larry.Grimm@texasre.org

Approved as to  
Form SV

Date: 06/10/2008

**Exhibit 1**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Treasury and Credit Services Cost Allocation**

**Base Allocation**

ERCOT's treasury and credit personnel provide a variety of services benefiting the Texas RE including: credit management; finance and debt management; enterprise risk management, including insurance programs; and cash investments and banking services. Total allocations relating to treasury and credit personnel for 2008 are \$72,000.

**Insurance**

Insurance Type	Allocation Basis	2008 Allocation	Comment
D&O Premiums	25%	\$ 56,756	Tie allocation to allocated share of independent director fees.
Property	Square Feet	\$ 1,668	Linked to square feet of space used by Texas RE staff.
Workers Compensation	Staff Count	\$ 3,593	Cost assumed a function of headcount.
Other	Square Feet	\$ 1,002	Linked to square feet of space used by Texas RE staff.
Total		<b>\$ 63,017</b>	

**Enterprise Risk Management**

Insurance Premiums Allocated to Texas RE	\$ 63,017
Total ERCOT Insurance Premiums	\$ 1,691,547
Proportion of Premiums Allocated	3.73%
Annual ERM Cost	\$ 100,000
ERM Cost Allocated to Texas RE	<b>\$ 3,725</b>

**Treasury and Cash Management**

Treasury and Cash Management Costs	\$ 390,637
Total ERCOT Costs	\$ 225,415,000
Treasury and Cash Management Costs relative to Total ERCOT Costs	0.17% Applied to each dollar spent by the Texas RE. For example if the the Texas RE spends \$3 million, the allocation for treasury and cash management services will total \$5,100 (\$3 million * 0.17%).

**Credit Management**

No allocation of cost to Texas RE.

**Exhibit 2**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Human Resource Services Cost Allocation**

**Base Allocation**

ERCOT's human resource personnel provide a variety of services benefiting the Texas RE including recruitment and hiring, performance management, employee benefit administration, and employee training. The cost allocation for the services will be \$113 per employee per month (calculation summarized below).

Assuming the Texas RE will have 30 employees throughout 2008, the base human resources allocation for the year is expected to total approximately \$40,680.

A summary of the tasks and services provided by human resource staff is listed below.

Total Human Resources expenses recorded in 2007	\$ 1,129,000
Less:	
Recruiting expenses (Account 65240) recorded in 2007	\$ 24,000
Estimated 2007 internal recruiting labor and benefits cost	\$ 140,000
External 2007 recruiting cost (Vendor 2271)	\$ 55,363
External 2007 recruiting cost (Vendor 2339)	\$ 81,669
Adjusted Human Resources expenses recorded in 2007	\$ 827,968
ERCOT employee count at January 1, 2007	591
ERCOT employee count at January 1, 2008	625
Average employee count in 2007	608
Adjusted Human Resources expenses recorded in 2007	\$ 827,968
Average employee count in 2007	608
Average annual human resource expense per ERCOT employee	\$ 1,362
Average monthly expense per employee	\$ 113

**Human Resources Task Descriptions**

Provide HR and organizational development support  
Define, create and manage HR strategy  
Develop succession and career plans  
Implement organizational changes  
Manage and coordinate board activities regarding human resources, compensation, benefits, and training  
Plan, organize, and facilitate ERCOT's annual member meeting  
Design, manage, and maintain compensation and benefits offered to ERCOT employees  
Prepare and distribute periodic internal reports on HR issues  
Prepare and distribute periodic external reports regarding HR issues (e.g. Annual EEO1, reports to external auditors, and schedules to benefits vendors)  
Develop, manage, and ensure compliance with human resource related policies, standards, and procedures  
Oversee and administer workforce benefits  
Oversee and administer workforce compensation  
Provide support to ERCOT's Strategic Review Team, Policy Review Team and other similar initiatives impacting ERCOT's workforce  
Create and review contracts and agreements relating to human resource issues  
Administer ERCOT's family medical leave program  
Coordinate and review annual filing with the Internal Revenue Service and Department of Labor  
Monitor and ensure benefit plan compliance  
Prepare and support internal audit requests related to benefits  
Coordinate and complete a quarterly review of 401(k) plan investment and recommend changes, if any  
Manage ERCOT's annual merit review process  
Complete an annual review of employee classification  
Manage and update (as necessary) job descriptions and position grading to ensure continued pertinence and consistency with the current job market  
Manage ERCOT's employee recognition and reward program  
Manage annual audit of ERCOT's benefit plans including preparation of work papers to support compensation audit requests  
Manage workforce relations and the employee life cycle  
Coordinate retention, moral, other social programs enjoyed by ERCOT staff



**Exhibit 3 a**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Procurement, Contract Administration and Strategic Sourcing Services Cost Allocation**

**Base Allocation**

ERCOT's procurement and contract administration personnel provide a variety of services benefiting the Texas RE including: administering competitive processes such as request for proposal and request for information functions; managing vendor selection and evaluation processes; overseeing contract administration and compliance functions; and administering purchase order services. A summary of the tasks and services is listed below.

<b>Procurement, Contract Administration and Strategic Sourcing Task Descriptions</b>
Prepare period status reports on procurement and contract administration activity
Establish, monitor and modify, as necessary, internal controls relating to procurement and contract administration
Provide assistance to the vendor payment process to ensure professional vendor relationships
Issue purchase orders and related documentation
Prepare requests for proposals, requests for information, requests for quote and similar procurement documentation
Evaluate vendor proposals to provide goods and/or services to ERCOT
Negotiate pricing terms with vendors
Develop sourcing options for goods and services
Administer the process to qualify vendors to conduct business
Manage vendor relationships with ERCOT including activity such as ensuring vendors possess necessary insurance coverages and remain on acceptable financial condition
Analyze vendor activity and performance to ensure contractual compliance among other reasons
Monitor contracts and alert business users of upcoming events such as expiration dates, renewal dates, or compliance issues

**Exhibit 3 b**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Procurement, Contract Administration and Strategic Sourcing Services Cost Allocation**

\$ 969,559 Total 2007 expense for department 112 - Procurement and Contract Administration

65% Percentage of Total 2007 expense for department 112 associated with Procurement

35% Percentage of Total 2007 expense for department 112 associated with Contract Administration

Procurement Cost per Unit

\$ 630,213 Amount of Total 2007 expenses for department 112 associated with Procurement

40% Percentage of cost associated with Procurement relating to RFP/PO transactions

60% Percentage of cost associated with Procurement relating to PO transactions (no RFP)

\$ 252,085 Amount of 2007 costs associated with RFP/PO transactions  
41 Number of RFP/PO transactions in 2007

\$ 6,148 Assumed annual cost per RFP/PO transaction

\$ 512 Assumed monthly cost per RFP/PO transaction

\$ 378,128 Amount of 2007 costs associated with PO transactions (no RFP)  
1,587 Number of PO transactions (no RFP) in 2007

\$ 238 Assumed annual cost per PO transaction (no RFP)

\$ 20 Assumed annual cost per PO transaction (no RFP)

Contract Administration Cost per Unit

\$ 339,346 Amount of Total 2007 expenses for department 112 associated with Contract Administration

650 Number of contracts being in 2007

\$ 522 Assumed annual cost per contract administered in 2007

\$ 44 Assumed annual cost per contract administered in 2008

**Exhibit 4**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Accounting, Budget, and Payroll Services Cost Allocation**

**Base Allocation**

ERCOT's accounting, budget, and payroll personnel provide a variety of services benefiting the Texas RE including financial statement preparation, regular and ad-hoc financial analyses, periodic and ad-hoc regulatory (federal and state) filing preparation, budget coordination and preparation, participation in ERO sponsored financial and budget meetings, payroll administration and processing, time tracking monitoring and reporting, vendor payments, billing and accounts receivable transaction processing, reimbursement of Texas business expenses incurred by Texas RE staff.

During 2008, ERCOT's controller, accounting manager, accounting supervisor, and budget manager are expected to commit significant time and effort to the development, creation, and maintenance of unique accounting codes to support the Texas RE. Time spent by these individuals on such organizational initiatives will be discretely tracked and charged to the Texas RE at actual labor rates.

**Accounting, budget, and financial analysis**

2008 cost per month	\$	2,000
Months in the year		12
2008 allocated cost	\$	24,000

**Payroll**

2008 cost per month	\$	2,000
Months in the year		12
2008 allocated cost	\$	24,000

**Exhibit 5 a**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Facilities Services Cost Allocation**

<b>Cost per square foot</b>			
Square feet of ERCOT facilities	221,000		
ERCOT facilities cost	\$ 6,047,686		
2007 ERCOT facility cost per square foot	\$ 27.37	per square foot per year	
	\$ 2.28	per square foot per month	
<b>Space directly occupied by Texas RE staff</b>	<b>2,526</b>		<b>2,526</b>
<b>Texas RE proportional share of common space in dedicated to the Texas RE and IMM</b>			
Square feet occupied by Texas RE staff	2,526	73%	
Square feet occupied by Independent Market Monitor staff	936	27%	
Square feet occupied by Texas RE and IMM staff	3,462	100%	
Square feet of common space dedicated to the Texas RE and IMM staff	684		
Texas RE's relative share of space occupied by Texas RE and IMM staff	73%		
<b>Texas RE's proportional share of common space dedicated to the Texas RE</b>	<b>499</b>		<b>499</b>
<b>Space directly occupied by Texas RE staff</b>	<b>3,025</b>		<b>3,025</b>
Space directly occupied by IMM staff	1,120		
Subtotal - Texas RE & IMM space in dedicated, secured area	4,145		
Divided by Adjusted square footage in the Met Center	45,000		
Texas RE's proportional share of Adjusted square footage in the Met Center	7%		
Common area square footage in the Met Center (excluding common space dedicated to the Texas RE and IMM)	19,153		
<b>Texas RE proportional share of common space not dedicated to the Texas RE and IMM</b>	<b>1,288</b>		<b>1,288</b>
<b>Grand Total of Texas RE Space and Common Space</b>	<b>4,313</b>		<b>4,313</b>
<b>Total square footage allocated for the Texas RE</b>	<b>4,313</b>	square feet	
<b>Estimated facilities charge</b>			
	\$ 118,015	per year	
	\$ 9,835	per month	

**Exhibit 5 b**  
**Texas RE - ERCOT Memorandum of Understanding**  
**Facilities Services Cost Allocation**

<b>Expense Description</b>	<b>Account</b>	<b>Dept</b>	<b>2007 Actual</b>
<b><u>Utilities</u></b>			
Electricity	73120	325	1,422,453
Fuel Oil	73128	325	11,739
Water/Gas/Sewer/Trash	73160	325	75,272
Subtotal - Utilities			<u>1,509,464</u>
<b><u>Rent</u></b>			
Office Rental	67000	325	690,252
Storage Rental	67060	325	44,162
Subtotal - Rent			<u>734,414</u>
<b><u>Telecom</u></b>			
Telephone - Local	73080	330	182,230
Telephone - Long Distance	73085	330	103,072
Internet Service	73200	330	81,596
Subtotal - Telecom			<u>366,897</u>
<b><u>Building Maintenance</u></b>			
Building Maintenance	73180	325	185,116
Building Maintenance	73181	325	385,147
Grounds Maintenance	73182	325	64,666
Custodial Service	73183	325	228,803
Misc Services	73184	325	102,500
Bldg Security Services	73185	371	995,203
Subtotal - Maintenance			<u>1,961,436</u>
<b><u>ERCOT Labor and Benefits</u></b>			
Facilities Staff	Various	325	1,145,903
Physical Security Staff	Various	371	329,572
Subtotal - Labor and Benefits			<u>1,475,475</u>
<b>Total</b>			<u><u>6,047,686</u></u>

# Exhibit 6

## Texas RE - ERCOT Memorandum of Understanding Information Technology Services Cost Allocation

### Texas Regional Entity - IT Services Cost Breakdown

Internal User Services	Per Annum	Per Month
<i>License &amp; Maintenance related charges</i>		
Microsoft	675	56
Oracle	186	16
Quest	164	14
Cisco	103	9
Altiris	43	4
Symantec	26	2
IBM	144	12
Lawson	204	17
Other	173	14
<b>Total Technology Services</b>	<b>1,719</b>	<b>143</b>
<i>Labor related charges</i>		
<b>IT Operations &amp; Overhead</b>		
CIO Administration	1,141	95
IT Account Management	444	37
Enterprise Architecture	17	1
EIS	116	10
Corporate Applications	1,029	86
Web & Data Services	22	2
Database Administration	56	5
Release Management	63	5
Commercial Operations	103	9
SE&A	724	60
Storage Resources	78	6
WAN	979	82
Networking	385	32
Console Operations	583	49
IT Project Management	330	27
<b>Total IT Operations &amp; Overhead</b>	<b>6,070</b>	<b>505</b>
<b>Total Internal User Services</b>	<b>7,789</b>	<b>649</b>
(per Employee/Annum)		
<b>Total for 30 Employees</b>	<b>233,665</b>	<b>19,457</b>
<b>Computer Hardware Lease</b>	<b>11,880</b>	<b>990</b>
<b>Total TRE IT Costs</b>	<b>245,545</b>	<b>20,447</b>

#### Internal User Services:

▪ Desktop Services	<b>Other:</b>	
▪ Corporate Applications	Audit-Paisley Consulting	1,212
▪ Intranet	Hummingbird	708
▪ Voice, Internet, WebEx	Aperture	19,364
▪ Project Management	Informatica	35,625
	Sun IDM	50,800
	OSI - PI app	34,775
		<b>142,484</b>

#### Desktop Services:

The management of the desktop environment including labor, licenses, and support and maintenance fees paid to vendors in support of desktop services. Includes file storage and print services, data backup and restoration, helpdesk services, and other services in the support of maintaining file/print services and the desktop environment.

#### Corporate Applications:

These services fulfill the operational and maintenance requirements of ERCOT Corporate Applications Hardware and Software resources, thereby enabling and enhancing productivity of corporate operations. Applications include: AIM Service Desk, Aperture Vista, Altiris, Aperture View, Internal Audit Applications, Fund Transfer Wiring Tools, Hummingbird, Lawson (ERP function) MS Project Server, SharePoint Portal, and others.

#### Intranet:

These services fulfill the operational and maintenance requirements corporate Intranet, including content and infrastructure management

#### Voice, Internet, WebEx:

These services fulfill the operational and maintenance requirements of communications infrastructure that include Voice telephony, Internet Connectivity and web conferencing (WebEx)

#### Project Management:

These services fulfill the project, program and portfolio management requirements for Operations & Maintenance projects, related to both Zonal Market as well as Internal User services, thereby enabling / enhancing efficiency of project lifecycle