



# Audit and Compliance, Incidence Response Preparedness, and Enterprise Risk Management Update

Steve Byone  
Chief Financial Officer

**Board of Directors Meeting**  
**August 15, 2006**

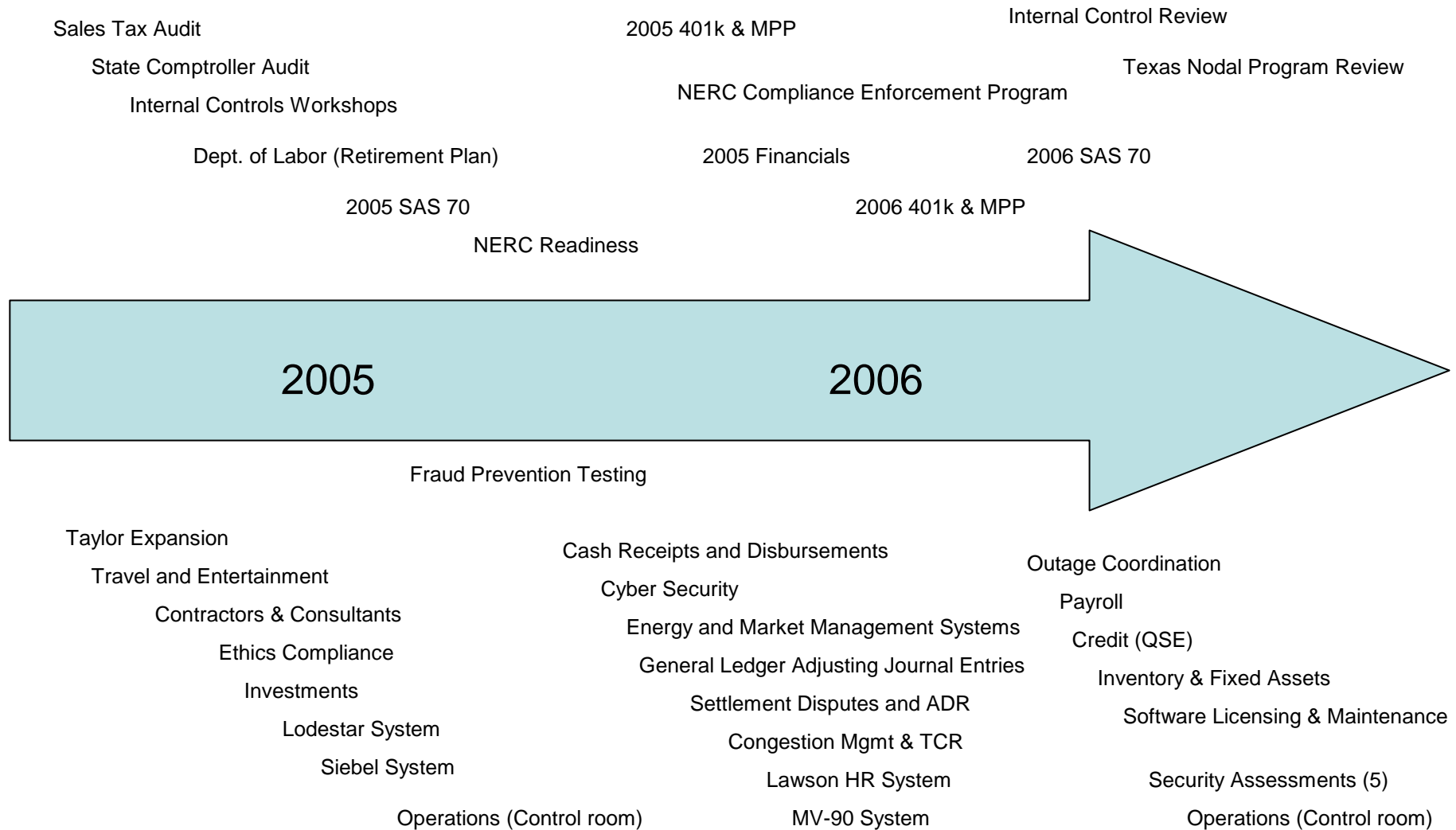
## Agenda

- **Audit and Compliance Update**
- **ERCOT Incident Response Preparedness**
- **Enterprise Risk Management Update**

# Audit Update

- **ERCOT has been subject to numerous External and Internal Audits and Formal Reviews**
- **In the last 18 months (beginning January 2005), ERCOT has been subject to 12 External Audits/Reviews and 22 Internal Audits**
- **Additionally, Management has recently completed a ‘self assessment’ of ongoing compliance with all applicable laws, regulations, protocols, contractual obligations, disclosure mandates, and other requirements**

# Audits – 34 Completed, (12 External, 22 Internal, 13 in Progress)



# August 2006 Recently Completed, Opened, and Planned Audits

<u>Audits Completed</u> <b>(last three months)</b>	<u>Open Audits</u>	<u>Planned Audits</u> <b>(next 3 months)</b>
<u>Internal Audits</u> <ul style="list-style-type: none"> <li>• Lawson HR System</li> <li>• MV90 System</li> <li>• Payroll</li> <li>• Outage Coordination</li> </ul>	<u>Internal Audits</u> <ul style="list-style-type: none"> <li>• Credit (QSE)</li> <li>• Inventory &amp; Fixed Assets</li> <li>• Software Licensing &amp; Maintenance</li> <li>• Fraud Prevention (ongoing)</li> </ul>	<u>Internal Audits</u> <ul style="list-style-type: none"> <li>• Ethics Compliance</li> <li>• Consultants, Contractors &amp; Compliance</li> <li>• Investments</li> <li>• Corporate Communications</li> <li>• System Operations</li> <li>• <i>Development of 2007 Audit Plan</i></li> </ul>
<u>External Audits</u> <ul style="list-style-type: none"> <li>• 2005 Financial (PwC)</li> </ul>	<u>External Audits</u> <ul style="list-style-type: none"> <li>• 2006 SAS70 (PwC)</li> <li>• Internal Controls (D&amp;T)</li> </ul>	<u>External Audits</u> <ul style="list-style-type: none"> <li>• Texas Nodal Program Review (managed by IAD)</li> <li>• 401k / MPP (PwC)</li> <li>• Various reviews of ERCOT's network and system security.</li> </ul>

## Status of Open Audit Points - 2006



# Compliance Update



- **Each ERCOT Officer has been asked to identify the Compliance Requirements within their respective organizations**
- **For each requirement, an assessment is made of whether the area is in compliance, ‘substantially compliant’\*, or not in compliance with any ‘non-yes’ answer requiring further explanation.**
- **Out of 98 areas identified, none were deemed to not be in compliance although 12 were deemed to be ‘substantially in compliance’:**
  - Details regarding ‘substantially in compliance’ are included in your Executive Session materials

\* **Substantially Compliant**” means compliance with essential requirements of a statutory provision, standard, policy or procedure as may be sufficient for the accomplishment of the purpose thereof. As such, there may be an accidental mistake or a good business reason for a minor modification or deviation from the statutory provision, standard, policy or procedure, but that does not affect that substantial compliance has been met of the statutory provision, standard, policy or procedure.

- **Continue to address 12 ‘Substantially Compliant’ items by the end of 2006 so that ERCOT is in ‘full compliance’ in all areas**
- **Seek external review of identified Compliance Areas to confirm completeness and appropriateness**
- **Require quarterly signed Management Attestation as to the accuracy of the Compliance Certification Report**
- **Continue semi-annual review of compliance results with the Board of Directors**

# ERCOT Incident Response Preparedness

- **As of the Beginning of 2006, ERCOT had outdated Emergency Preparation and Communications Plans, many dating from 2002 / 2003 and not generally known to Staff and Management**
  - Grid Operations has always had robust Communications and Disaster Recovery plans, however Market Operations and Corporate functions lacked up-to-date actionable procedures
- **During 2006, a comprehensive effort was undertaken to rewrite and update the various Incident Response plans as well as ‘run through’ simulated Emergency Situations.**
- **Additional effort is necessary to update IT Disaster Recovery Plans and System Architecture Recovery Processes**

# ERCOT Incident Response Preparedness – August 2006

## Managing a Crisis

## Communicating About a Crisis

### Crisis Management Plan

A plan that gives an overview of how to manage a crisis to minimize loss of grid reliability, injury, destruction or monetary losses. (last revised 2/04, update in progress)

### Emergency Response Plan

A plan that details how to respond to an emergency situation at ERCOT. (last revised 06/06 and being rolled out, updated, and tested on an ongoing basis)

### Crisis Communications Plan

A plan that details how to communicate with constituencies in a crisis. (Communications group working with other groups—final version ready for review 08/06)

### Emergency Reporting & Response Policy

A high-level policy regarding ERCOT's response to emergencies. (last revised 5/05—update in process)

### Disaster Recovery Plan

A plan that provides for the back-up and maintenance of electronic data. (last revised 04/03, Internal Disaster Recovery System Architect being hired within IT)

### Business Continuity Plan

A plan that details recovery of operations for employees to complete their work in the event of a loss of one or both of ERCOT's operating facilities. (Baseline established 08/06)

# Other Incident Response Preparation Activities

- **NERC has issued new Cyber Security (CIP) protocols which are being enacted at ERCOT**
- **Ongoing coordination with Texas Division of Emergency Management / State Operations Center and other State and Federal Resources**
- **ERCOT is in the process of adopting the NERC Guidelines on Pandemic Planning (“Bird Flu”)**
  - Ongoing contact is maintained with regional and national health authorities on current health alerts and ‘best practices’
  - Mechanisms are in place to control access by individuals to ERCOT facilities in case of a pandemic
  - Facilities, System Operations, IT, Legal, and Human Resources staff have been involved in planning for workplace interruptions
  - Medical, disinfectant, and isolation supplies are on hand
  - ERCOT has participated in a recent PJM conference on Avian Influenza planning and will host a Symposium on October 31, 2006

# Enterprise Risk Management Update

- **ERCOT established a formal ERM program in 2005**
- **Management reviews key enterprise risks on a monthly basis**
- **Changes in management assessment of a key risk are reviewed by Finance & Audit Committee monthly**
- **Governance structure calls for a Board of Directors update semi-annually**
- **Appendix includes overview of ERCOT's ERM program**



# August 2006 Risk Inventory "Stoplight" Report

## ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC. RISK MANAGEMENT EVENT PROFILE MATRIX (as of August 4th, 2006)

Strategic Position	Operational Excellence	Market Facilitation	Grid Reliability	Reporting	Compliance
<b>Strategy Development</b> Objective setting adequately incorporates informed stakeholder input, market realities and management expertise  ERCOT staff is generally not sufficiently aware of ERCOT's short or long-range strategic plan. Turnover in Senior Management has resulted in uncertainty regarding ERCOT's strategic vision. Additionally, issues surrounding the ERO/RE and nature of a 'Quasi-state' entity environment increases risk.	<b>Performance Monitoring</b> Clearly defined performance metrics linked to mission and goals; actively monitored, status communicated and corrective action taken  Management is undertaking a study to review the Executive Dashboard which will include recommendations for Key Performance Indicators (KPIs) to provide more meaningful information on goal performance. Management has instituted regular Quarterly Business Reviews to discuss key business activities.	<b>Customer Choice</b> Market design promotes efficient choice by customers of energy providers with effective mechanisms to change incumbent market participants as desired.  IT components supporting Customer Choice are currently not at the desired levels to meet SLA's. Successful replacement of SeeBeyond Application with TIBCO and Test environment build out will have a major impact on Customer Choice operations.	<b>Grid Operations</b> Information required to operate the grid is efficiently gathered and appropriate tools are prudently configured to efficiently operate the system  Current tools utilized by the System Operator (including the State Estimator and the accuracy/availability of SCADA data) and the lack of an Operator Training Simulator exposes ERCOT to greater reliability risks.	<b>Review Practices</b> Prudent measures are taken to insure that company disclosures are properly vetted and not misleading  Internal review standards to ensure accuracy and completeness of information prior to release are below desired levels. Board of Director's Review of management activities on an ongoing basis assists in ensuring proper review and disclosure practices.	<b>Legal &amp; Legislative</b> Operations are conducted in compliance with all laws and regulations and current and proposed legislation is understood and communicated  Increased efforts have been made to inform members of the legislature about ERCOT and the performance of its functions. In addition, ERCOT has initiated increased informational meetings with PUC decision-makers in order to discuss and coordinate our mutual understanding of PUC and ERCOT issues.
<b>Mission and Goals</b> Corporate objectives and performance standards are understood and followed  Current management initiatives related to goal setting and 'Line of Sight' have increased awareness of goals, and objectives related to high-level corporate objectives and priorities for individual divisions, departments, and employees.	<b>Business Practices</b> Business planning, processes and management standards are effective and efficient  Disaster recovery plans, record retention procedures, and safety practices are currently below desired expectations. Additional development activities required to implement and test these procedures. Recent completion and testing of Business Continuity, Crisis Communications, and Emergency Response plans have increased ERCOT's ability to adequately respond to an emergency situation.	<b>Nodal Implementation</b> Nodal Implementation is progressing in a timely fashion on budget and schedule within a defined scope.  Significant risks exist with respect to project budgeting, human resource staffing, project scope and management, and tracking completion of the project in an acceptable timeframe. The magnitude and scope of the initiative provides significant levels of risk to the organization which have not been fully addressed at this time.	<b>Planning</b> Long-range planning methods enable efficient responses to necessary system changes to maintain reliability standards  Lack of timely and accurate information necessary to build reasonable system models and forecasts, an insufficient ability to conduct long-range (10 years out) planning, demands on planning resulting from a transition to Nodal. Long range planning issues must address increased load growth forecasts as well as review adequacy of current spinning reserve requirements.	<b>Disclosure</b> Reporting and other disclosures to intended parties is timely, accurate and effective  A Disclosure Committee is in the process of being institutionalized to discuss and report on issues related to external reporting and compliance. An initial review has been performed of all ERCOT departmental disclosure requirements and has not discovered any material issues related to the timeliness or accuracy of disclosures.	<b>Internal Control Compliance</b> Internal Control Compliance, processes and management standards are effective and efficient  Failure to comply with internal controls may lead to imprudent or unauthorized use of corporate assets and/or inaccurate reporting. Audit findings are actively monitored by management as well as Internal Audit. While, an internal control compliance effort was largely completed in Q2 2006, staffing turnover has resulted in new individuals filling positions who have not received adequate ICMP training.
<b>Reputation</b> Positive perceptions by stakeholders typically lead to less cost and greater flexibility resulting in enhanced enterprise value  High visibility of initial Nodal implementation and impacts resulting from the Apr. '06 EECF and Dec '05 Retail Transaction system failure events combine to negatively impact ERCOT reputation. Impact from the 2004 scandal has been largely mitigated at this point due to ICMP changes, convictions and settlements.	<b>Human Resources</b> Organization design, managerial and technical skills, bench strength and reward systems are aligned with corporate goals  While we are beginning to reduce the number of open positions, a large number of openings continues to be a focus of attention for ERCOT. The current compensation structure is outdated, which reduces our ability to effectively attract and retain excellent employees. Some of our current procedures and the employee handbook also need to be reviewed and updated for accuracy and accountability.	<b>Counterparty Credit</b> Bankruptcies and other capital deficiencies increase the cost for market participants and potentially impact Grid reliability through participant failure  Processes for removing defaulting participants from the market increases the potential for credit losses. A medium to large market participant default could materially impact the ERCOT market, grid reliability, and ERCOT's reputation. Recent PRR's related to shortening the timeframe related to drops to POLR have reduced exposure by an estimated 37%.	<b>Bulk System Resources</b> Market Participants have constructed and made available adequate bulk electric grid resources  Uncertainty surrounding generation projects, installed and operational capacity, and the high dependency on natural gas in Texas' generation fleet may impact reliability. Further study is underway to determine bulk system resource adequacy given increased load growth beyond current expectations.	<b>Communication</b> Internal and external communications are timely and effective  Since the events of April 17th, ERCOT has implemented several corrective measures. Meetings have been conducted with most of the members of the Texas Legislature who have jurisdictional responsibility over ERCOT, a crisis management project for communications is in its final stages and a presentation showing a new External Relations organization for ERCOT will be made at the next Board meeting.	<b>Industry Standards</b> Business practices provide stakeholders with required assurances of quality  Failure to adhere to ERCOT adopted industry standards, and/or industry standards with which ERCOT is expected to adopt, may increase risks. Changes in NERC / FERC standards and policies require ERCOT action to ensure ongoing compliance. SAS 70 Audit Issues remain to be addressed with remediation activities underway to address preliminary findings.
<b>Fiscal Management</b> ISO design requires competent, prudent and cost effective provision of services  Current fiscal practices are effective in managing and controlling costs. Management has a focus on cost control having developed a key corporate goal to monitor on-going cost savings. Issues surrounding Nodal implementation budgeting, staffing allocations, and cost recovery have not been fully addressed.	<b>Technology Infrastructure</b> Information systems and data are effectively managed and are reliable  System development, testing, implementation, and data management environments are not at desired levels. The technology roadmap is not clearly defined and contributes to overall technology inefficiencies. Retail Transaction systems issues provide evidence of existing infrastructure concerns.	<b>Administration, Settlement &amp; Billing</b> Market rules are fairly applied to all participants and accounting is timely and accurately reflects electricity production and delivery  ERCOT's settlement/dispute processes has a small number of ADR's outstanding, however these are being addressed in a timely fashion. The recent SAS 70 audit has found no significant issues in the 13 Settlement & Billing control areas. No significant issues relating to administration of existing protocols have been identified.	<b>Operational Responsibility</b> Market participants conduct their operations in a manner which facilitates consistent grid reliability  Ineffective ERCOT enforcement ability relating to reliability standards may lead to gradual erosion of reliability. Response of generators to Apr. '06 EECF event requires greater scrutiny in analyzing market participant operations.	<b>Adequacy and Integrity</b> Robust processes exist to support management assertions embodied within financial reports  Financial and Operations management information is being redesigned to enable management to effectively monitor and manage all aspects of the business. No significant items identified at this time. A fully functioning Compliance and Disclosure risk sub committee will further support this area.	<b>Regulatory Filings</b> Evidence, testimony and other supporting materials are compelling and successful  Filings are completed timely and accurately. Ongoing management of competing priorities is necessary to avoid impacting the accuracy and timeliness of filings. Recent issues have surfaced in the rate surcharge request for Nodal funding.

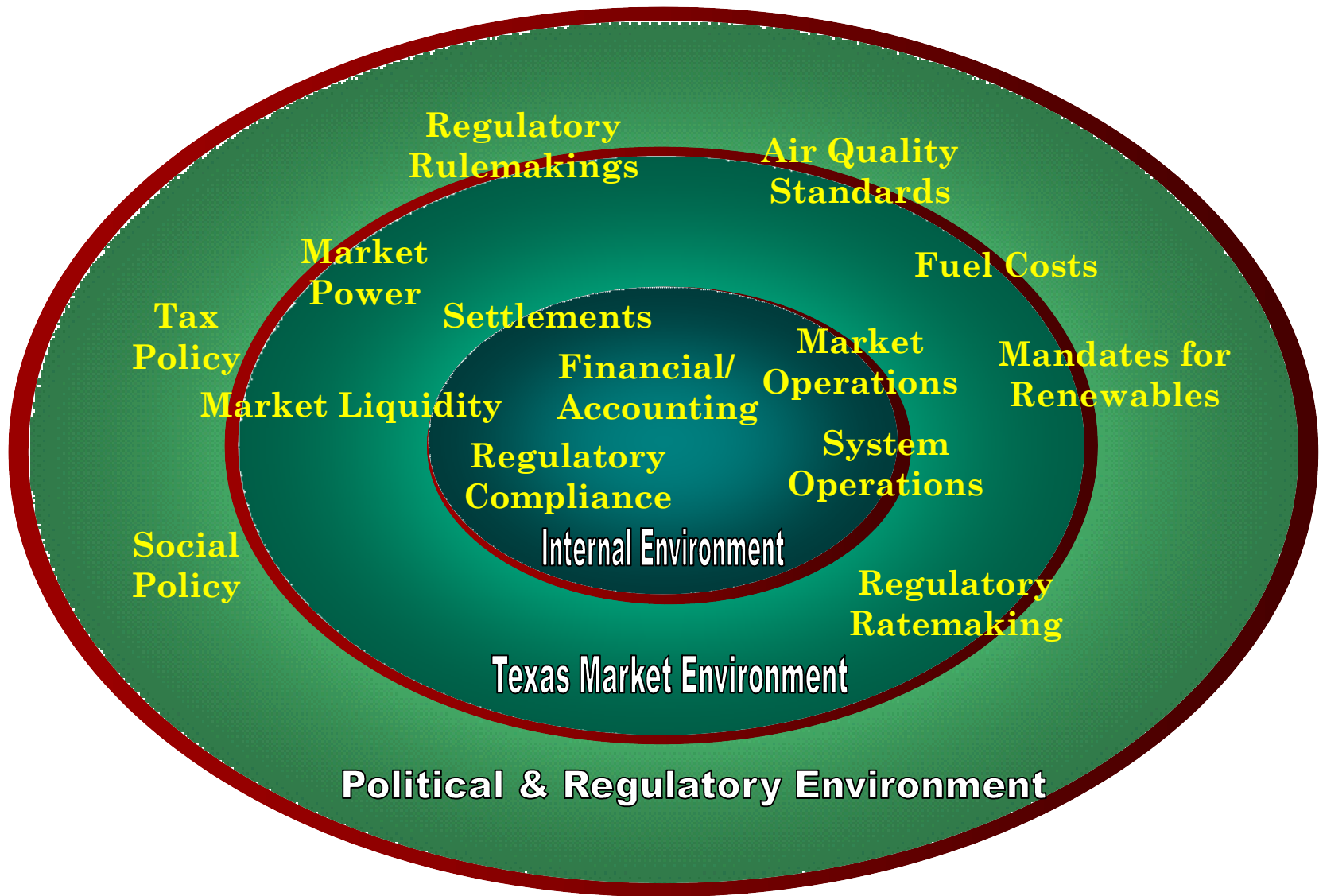
Legend: Elevated Risk Level Reduced Risk Level Special Attention Required (New Risk Categories / Descriptions Indicated in Green)

## **Comments or Questions?**

# Appendix: ERCOT ERM Concepts

- **Risk is the potential for loss due to uncertain future business factors:**
  - Internal factors such as employee actions, lack of controls, training deficiencies, etc.
  - External factors such as credit risk, market participant performance, fuel availability, weather (hurricanes), etc.
- **“Loss” refers to falling short of performance expectations**

# ERM Concepts: ERCOT Risk Environment



## Examples of possible “loss” ERCOT could experience due to risk:

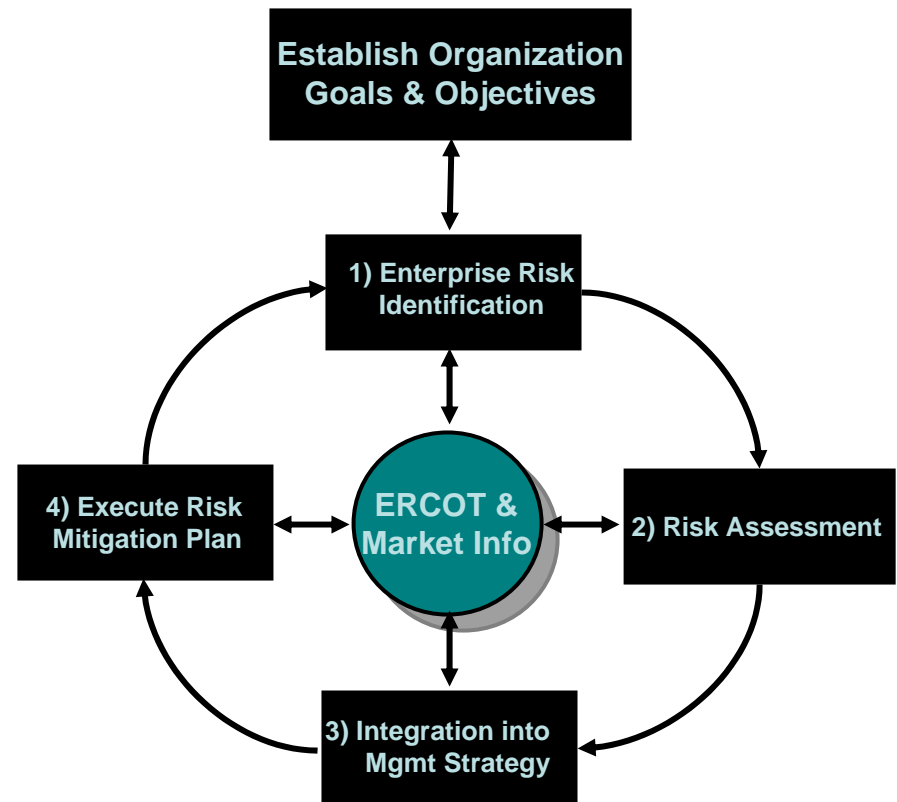
- **Blackout**
- **Unreliable systems**
- **Inaccurate settlements**
- **Credit losses**
- **Compliance failure / fines, penalties**
- **Negative public press**
- **Loss of credibility**
- **Increased regulatory scrutiny**
- **Possible unfavorable legislation**

**In short, inability to fulfill core mission**

# ERM Concepts: ERCOT's Goals for ERM

The major goals of the ERCOT ERM Program are to:

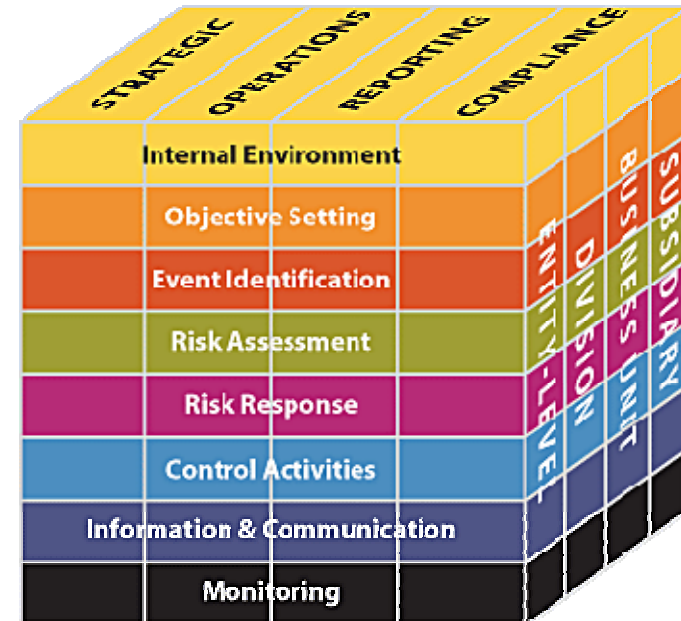
- **Identify risks and how they cross enterprise boundaries.**
- **Quantify risk through analysis and assessment.**
- **Develop plans, strategies, and contingencies for managing identified risks.**
- **Implement and administer the plans developed.**



# ERM Concepts: The COSO ERM Framework

- The COSO ERM framework defines essential components, suggests a common language, and provides clear direction and guidance for enterprise risk management.
- ERCOT currently employs the COSO framework for the Internal Control Management Program and the ERM framework is a natural extension.
- The COSO framework has the support of leading Financial and Accounting Associations in the United States
- The COSO framework is the primary vehicle used by public entities subject to Sarbanes-Oxley compliance.

## COSO ERM Framework



Entity objectives can be viewed in the context of four categories:

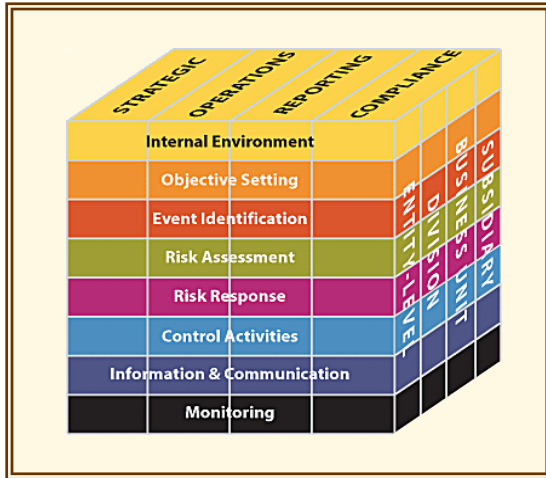
- Strategic
- Operations
- Reporting
- Compliance



# ERCOT's ERM Framework

## The COSO ERM Framework

ERCOT has aligned its ERM program with the COSO Integrated Framework for Enterprise Risk Management



## ERCOT Risk Categories

Strategic Position

Operations

- Operational Excellence
- Market Facilitation
- Grid Reliability

Reporting

Compliance

## ERCOT ERM Concepts

### Program's Purpose

Ensure that risks are dynamically identified, evaluated, managed, and monitored across the company within established risk philosophies, policies, standards, and the Board's tolerances;  
Provide for consolidated risk measurement analysis & strategy; and  
Provide for enterprise-wide risk-adjusted performance measurement capabilities.

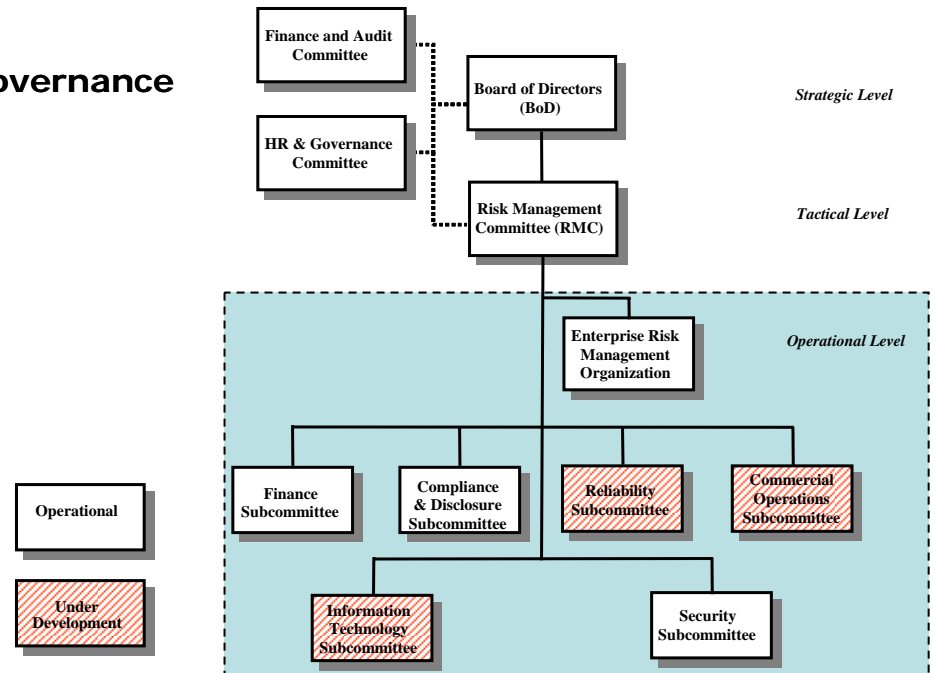
### Conceptual Design

Dynamic identification, evaluation, management and monitoring of risks throughout the company.

Consolidated risk measurement, analysis and strategy

Formally assigning accountability & responsibility for risk management.

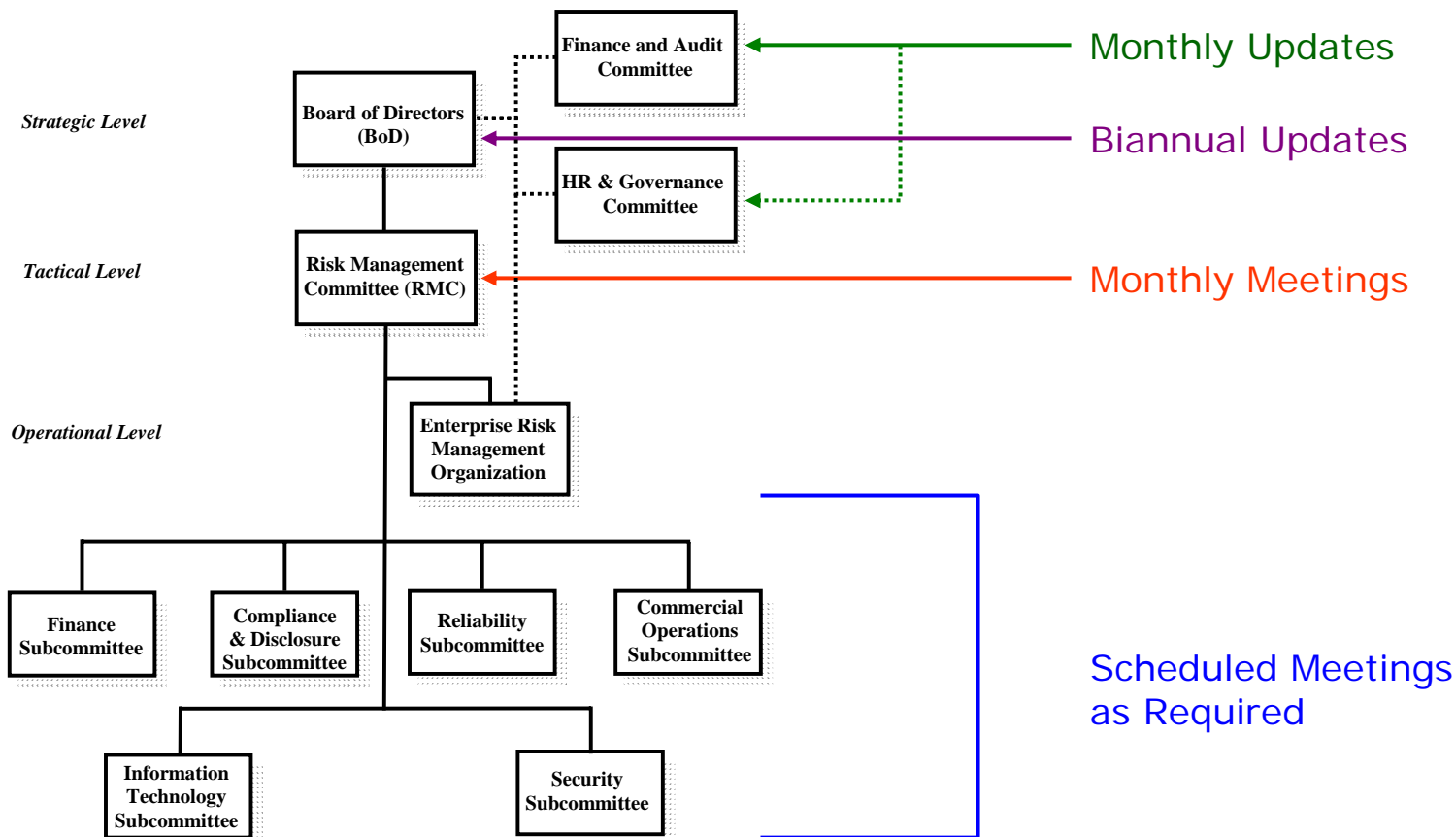
### Governance



# ERCOT ERM Framework: Oversight and Reporting

## ERM Governance Structure

## Update Frequency



# ERCOT ERM Framework: Key Accountabilities

- **ERCOT Board of Directors** is responsible for recognizing all risks ERCOT is exposed to; and for ensuring that the requisite risk management culture, policies, practices, and resources are in place.
- **ERCOT CEO** is responsible for ensuring that the company's activities are carried out within the parameters of the risk management framework and for informing the Board of risks taken in pursuit of the company's objectives.
- **ERCOT Line Management** is responsible for the comprehensive management of risks arising from activities within their respective areas.

**ERCOT has established a Risk Management Committee (RMC) which meets on a monthly basis to oversee ERCOT's management of corporate risks. The current members of the RMC are:**

<b>Sam Jones, CEO</b>	<b>Jim Brenton, Security</b>	<b>Steve Byone, CFO</b>
<b>Nancy Capezzuti, HR</b>	<b>Ray Giuliani, CMO</b>	<b>Ron Hinsley, CIO</b>
<b>James Thorne, GC</b>	<b>* Bill Wullenjohn, IA</b>	

\* Regular invitee

**The Risk Management Committee is assisted by the Manager, ERM and a number of operational subcommittees.**

Currently, six subcommittees supporting the Risk Management Committee are contemplated:

- **Finance** – Reviews interest rate, credit, liability mgmt, insurance and other financial exposures.  
(Steve Byone – Chair)
- **Reliability** – Reviews generation and transmission adequacy plans, forecast assessments and other reliability related risks.  
(Kent Saathoff – Chair; Under Development)
- **Compliance & Disclosure** – Reviews strategies and performance in complying with applicable laws, regulations, codes, contractual agreements and standards.  
(James Thorne – Chair)
- **Commercial Operations** – Reviews market structure, market performance, settlements, dispute resolutions and other market related risks.  
(Ray Giuliani – Chair; Under Development)
- **Security** – Reviews physical and cyber security plans, potential threats to critical resources, business continuity and other security related risks.  
(Jim Brenton – Chair)
- **Information Technology** – Reviews IT strategies and standards for availability and accessibility of ERCOT's IT infrastructure including systems redundancy, systems development, data management and integrity and other IT related risks.  
(Ron Hinsley – Chair; Under Development)

