



ENTERPRISE RISK MANAGEMENT

**Project Overview
For
ERCOT Board of Directors**

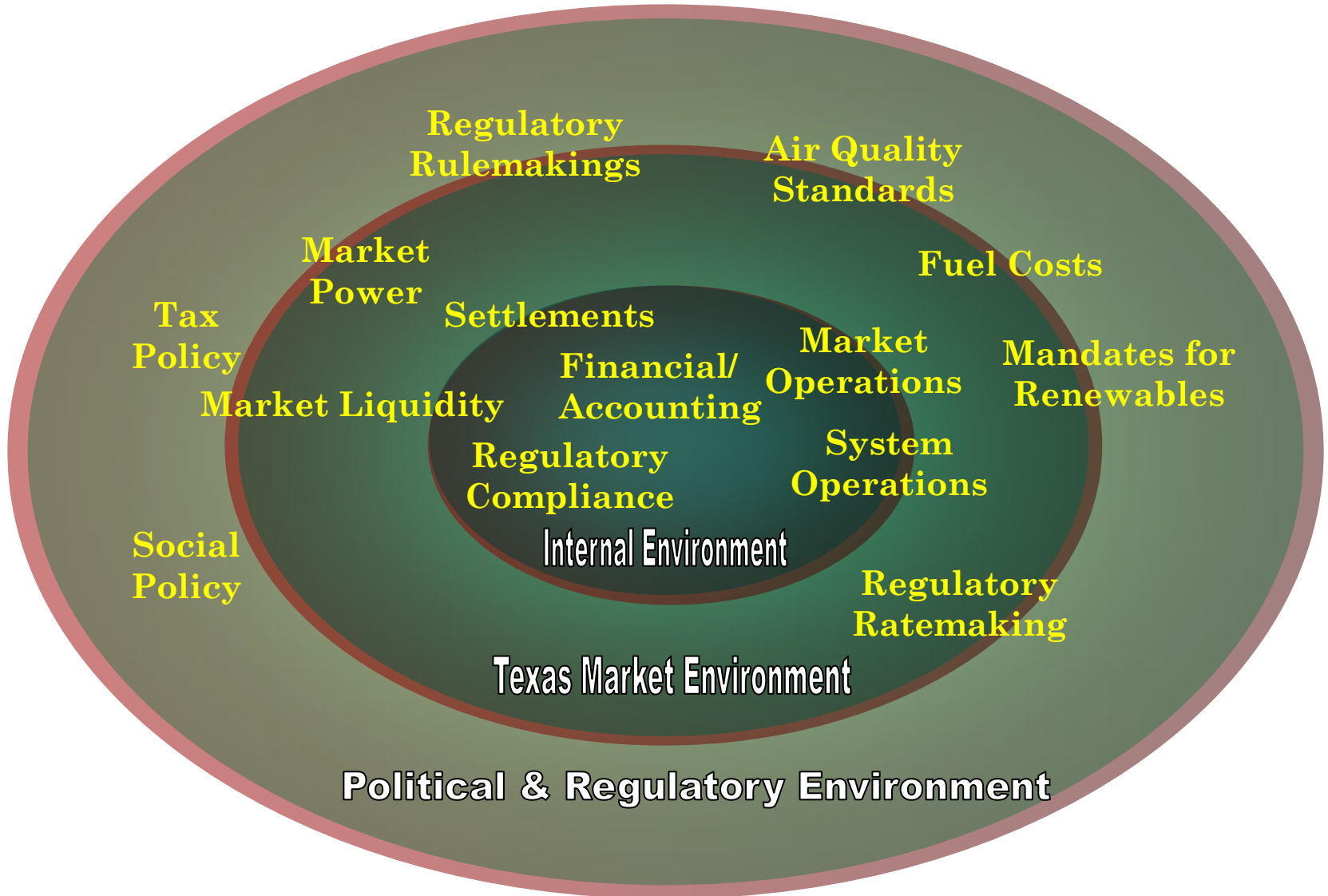
**Steve Byone
November 15, 2005**

- ❑ Enterprise Risk Management Concepts
- ❑ ERCOT's ERM Framework
- ❑ Proposed Risk Management Accountability and Governance
- ❑ ERM Development at ERCOT
- ❑ Overview of Initial "Stop Light" Report
- ❑ ERM Next Steps - 2006

- ❑ 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

- ❑ Increases in both fuel prices & price volatility have highlighted the continued credit weakness of many market participants
- ❑ IT security—reports of hackers attacking systems
- ❑ Heightened concerns with operational risk resulting from recent blackouts and terrorist activity
- ❑ Uncertain regulatory environment related to State and Federal oversight, accounting standards, and security concerns
- ❑ Continuing pressure to lower cost
- ❑ Constantly evolving markets and the introduction of new more sophisticated market products (e.g. nodal pricing)
- ❑ Overall “raised bar” of risk management expectations resulting from Sarbanes-Oxley, Enron, etc.



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

- ❑ Addresses risk management in an integrated and coordinated manner
- ❑ Establishes a common language, framework and models across a diverse internal and external group
- ❑ Enhances ERCOT's performance
- ❑ Assists in addressing corporate governance requirements for ERCOT

- ❑ Identify and manage cross-enterprise risks
- ❑ Provide integrated responses to multiple risks
- ❑ Enhance risk response decisions
- ❑ Align risk appetite and strategy
- ❑ Link budget, risk and reward
- ❑ Prioritize capital

And thereby:

- ❑ Minimize operational surprises and losses and enhance stakeholder trust and confidence

¹ Adapted from the Committee of Sponsoring Organizations of the Treadway Commission, Enterprise Risk Management Conceptual Framework, September 2004.

What is Risk?

For ERCOT, Risk is:
 Exposure to unfavorable outcomes relative to ERCOT's responsibilities and objectives.

What is Enterprise Risk Management?

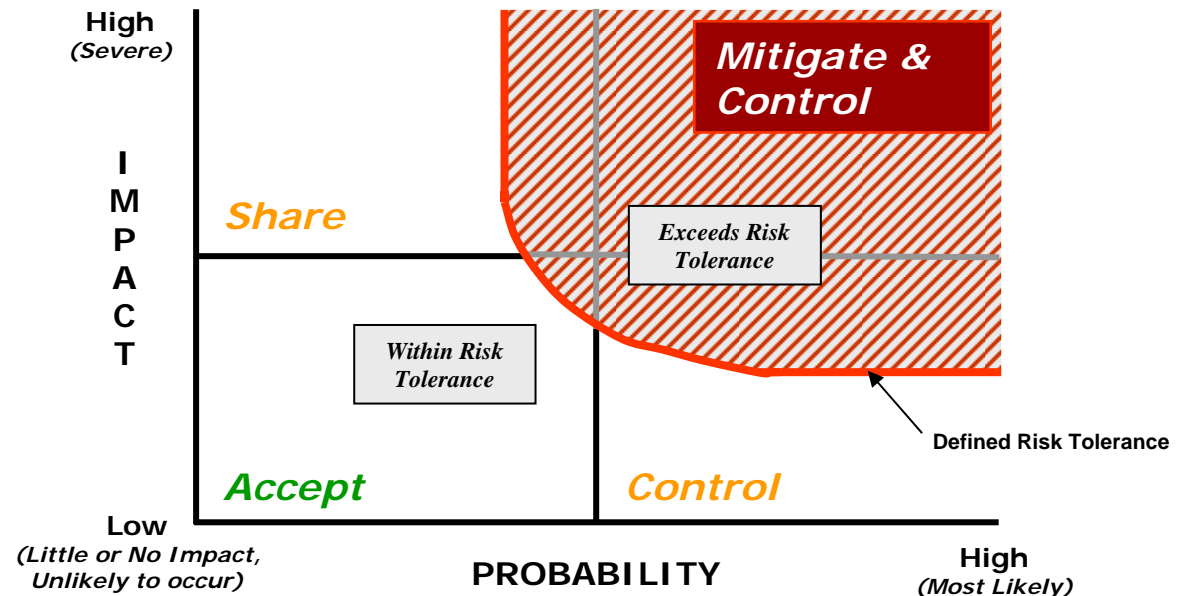
Enterprise Risk Management (ERM) is:

- A comprehensive methodology to manage risk across an entire organization.
- A means of identifying risks systematically and treating them on a portfolio basis.

Risk Relationships

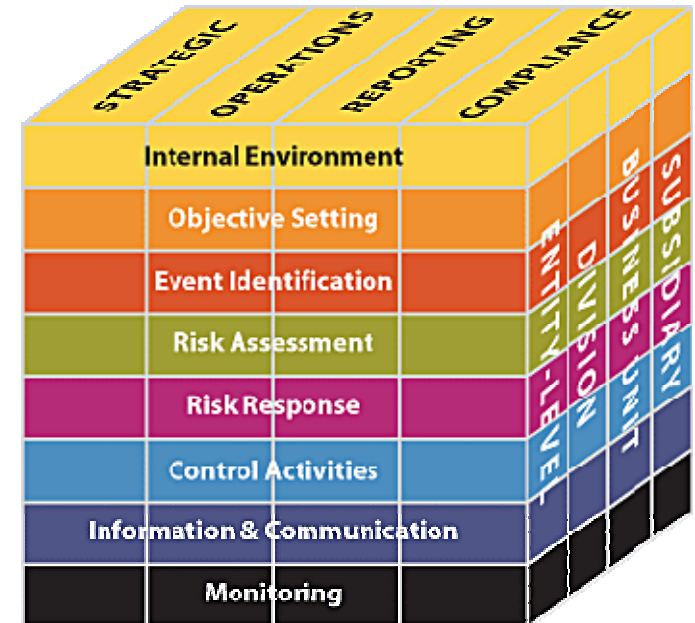
ERM facilitates ERCOT's analysis of risk in terms of:

- ❑ **PROBABILITY** – What is the probability or likelihood this risk will materialize?
- ❑ **IMPACT** – If the risk does occur, what would be its potential impact on the business?
- ❑ **RISK TOLERANCE** – The amount of risk exposure, or potential adverse impact from an event, ERCOT is willing to accept or retain in pursuit of its mission or objectives.
- ❑ **RISK MITIGATION STRATEGIES** – Once a risk is identified and analyzed, a risk mitigation strategy is implemented. These include: Accepting the risk (monitor), Sharing the risk (partner), Controlling the risk (institute controls), and mitigating the consequences of the risk (strive to eliminate or avoid the risk).



- 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

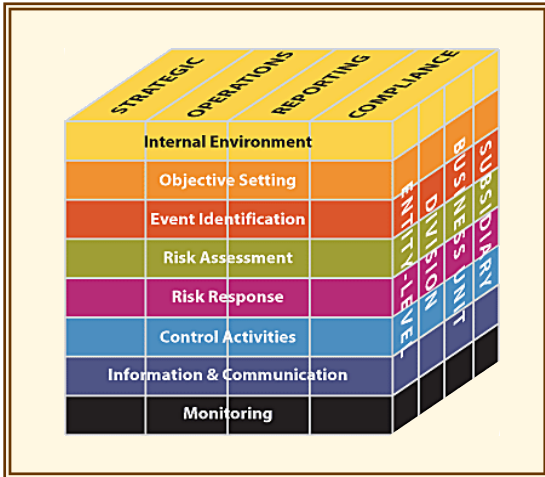


Entity objectives can be viewed in the context of four categories:

- Strategic
- Operations
- Reporting
- Compliance

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

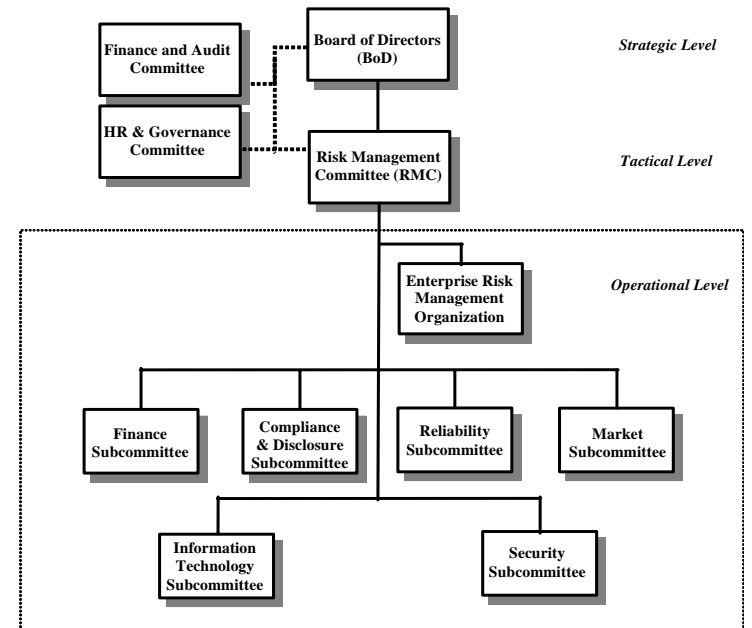
Program's Purpose

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 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) to oversee ERCOT's management of corporate risks. The current members of the RMC are:

Tom Schrader, CEO	Jim Brenton, Corp. Sec.	Steve Byone, CFO
Ray Giuliani, CMO	Ron Hinsley, CIO	Sam Jones, COO
Nancy McIntire, HR	Carolyn Shellman, GC	

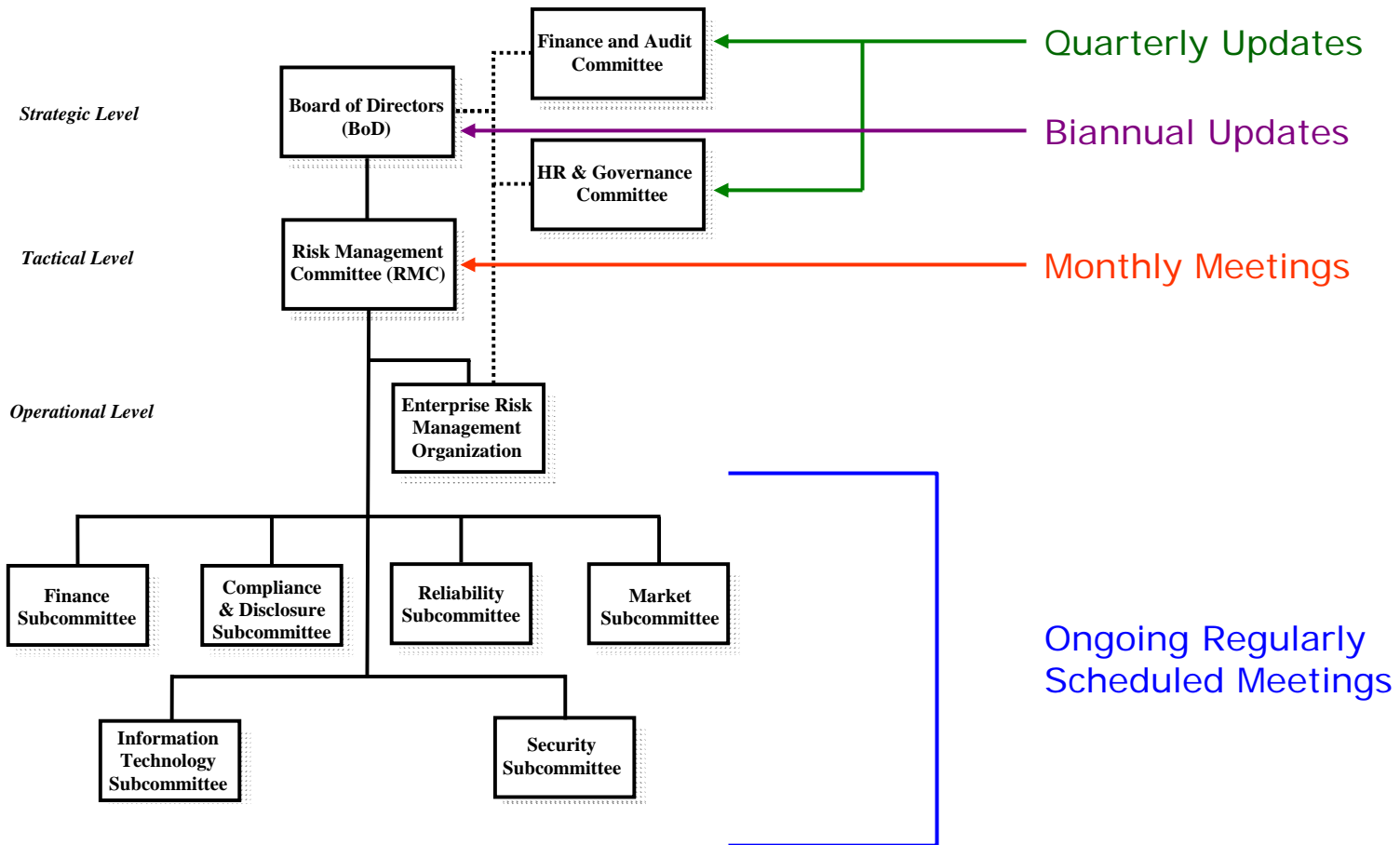
The Risk Management Committee is assisted by Don Meek, Manager, ERM and a number of operational subcommittees.

Currently, six subcommittees which would support the Risk Management Committee are being contemplated:

- ❑ **Finance** – Reviews interest rate, credit, liability mgmt, insurance, and other financial exposures.
(Steve Byone – Proposed Chair)
- ❑ **Reliability** – Reviews generation and transmission adequacy plans, forecast assessments, and other reliability related risks.
(Kent Saathoff – Proposed Chair)
- ❑ **Compliance & Disclosure** – Reviews strategies and performance in complying with applicable laws, regulations, codes, contractual agreements and standards.
(Carolyn Shellman – Proposed Chair)
- ❑ **Market** – Reviews market structure, market performance, settlements, dispute resolutions and other market related risks.
(Ray Giuliani – Proposed Chair)
- ❑ **Security** – Reviews physical and cyber security plans, potential threats to critical resources, business continuity, and other security related risks.
(Jim Brenton – Proposed 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 – Proposed Chair)

ERM Governance Structure

Reporting Frequency



Phase I Completed Activities

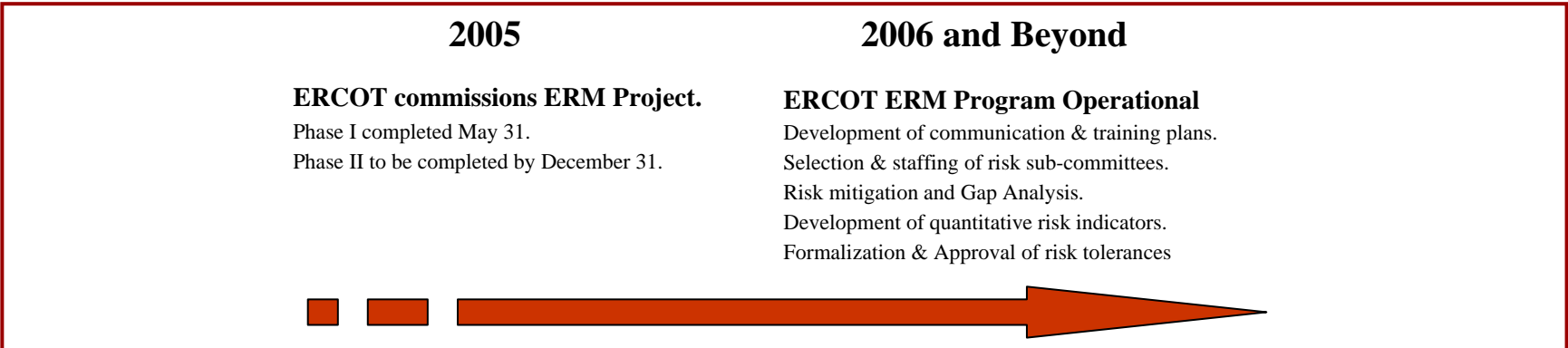
- Identified ERM Framework.
- Developed Initial Risk Categories.
- Initial Risk Inventory
- Mitigating Activities Inventory.
- Preliminary Risk Maps.































Phase II Activities

- ✓ • Develop draft ERCOT Risk Policy.
- ✓ • Establish ERCOT Risk Management Committee & Governance.
- ✓ • Finalize Organizational Design & Budget Justification.
- ✓ • Socialize Risk Inventory—Confirm Risk Priorities—Identify Risk Owners.
- ✓ • Establish Consensus Risk Appetite—Update Risk Maps.
- ✓ • Initiate Staffing Process.
- ✓ • Develop Communication, Training, & Other Change Management Tools—Begin Implementation.
- ✓ • Begin Risk Reporting (Internal & to BOD)

Operational

- Complete ERM Staffing.
- Expand/Implement Change Management Plan.
- Continual Risk Identification & Assessment
- Gap Analysis & Risk Mitigation Control Assessments.
- Formalize Risk Reporting (Internal & BOD).
- Reassess Risk Policy & Procedures as warranted.
- Develop Long-Term ERM Plan & Immediate (2Yr) Work Plans.



ELECTRIC RELIABILITY COUNCIL OF TEXAS RISK EVENT PROFILE MATRIX (as of November 15, 2005)					
 Strategic Position	 Operational Excellence	 Market Facilitation	 Grid Reliability	 Reporting	 Compliance
Factor Classifications					
 Strategy Development	 Performance Monitoring	 Efficiency	 Grid Operations	 Review Practices	 Legal & Legislative
ERCOT staff is generally not sufficiently aware of ERCOT's short or long-range strategic plan. Current strategic planning is viewed as more ad hoc than formal. Employees do not clearly understand the ERCOT vision and their role in working to achieve the vision.	Current performance monitoring of business activities fail to provide sufficient insight and early warning of potential underperforming activities (ie, PMO status). Inadequate project management & delivery capability will negatively impact the implementation of new PRRs and the transition to a nodal market.	No significant issues relating to the efficiency of the current market have been identified. (Except Nodal.)	Current tools used by System Operators (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.	Internal review standards to ensure accuracy and completeness of information prior to release are below desired levels.	Failure to properly comply with laws, regulations and protocols may result in fines, penalties, reliability degradation or other impacts.
 Mission & Goals	 Business Practices	 Administration	 Planning	 Disclosure	 Internal Control Compliance
Insufficiently documented company policies, goals, and objectives, and an inefficient translation of high-level corporate objectives into priorities for individual divisions, departments, and employees will diminish ERCOT's ability to achieve stated objectives.	Business Continuity Plans, Disaster Recovery Plans, internal control processes, record retention procedures, and safety practices are currently below desired expectations.	No significant issues relating to administration of existing protocols have been identified.	Lack of timely and accurate information necessary to build reasonable system models and forecasts, an insufficient ability to conduct long-range (6-10 years out) planning, demands on planning resulting from a transition to Nodal, and exposure that transmission planning will receive related to the passage of SB 20 combine to create a heightened level of risks.	No significant issues were identified at this time.	This area has not been fully assessed at this time.
 Reputation	 Human Resources	 Counterparty Credit	 Bulk System Resources	 Communication	 Industry Standards
ERCOT's reputation is below desired levels primarily due to fallout from the 2004 scandal. Scrutiny resulting from the Fee Case filing, high visibility of Nodal implementation, internal emphasis on cost cutting, and the potential for a renewed focus on the previous scandal (as trials begin) creates a potential for further reputation declines.	Compensation program design, poor career path definition, minimal funding for continuing education, lack of certainty around roles and responsibilities, and excessive use of contractors contribute to low morale and increases the risk of not being able to attract or retain quality employees.	Processes for certifying & decertifying market participants increase the potential for credit losses. A medium to large market participant default could materially impact the ERCOT market, grid reliability, and ERCOT's reputation. Current analytic methods may be insufficient to provide desired early warnings.	Uncertainty surrounding generation projects, installed and operational capacity, and the high dependency on natural gas in Texas' generation fleet may impact reliability.	Internal and external communications are below desired standards with improvement needed in both methods and message. Lack of sufficient internal communication was cited as a primary reason for lower morale.	Failure to adhere to ERCOT adopted industry standards, and/or industry standards with which ERCOT is expected to adopt, may increase risks.
 Fiscal Management	 Technology Infrastructure	 Settlement & Billing	 Operational Responsibility	 Adequacy & Integrity	 Regulatory Filings
Procurement process, ERCOT methods to account for project related O&M and Capital and accounts payable process are overly complex and thus inefficient. In addition, cost reduction measures may be too stringent to adequately address operational performance expectations.	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.	ERCOT settlement/dispute processes result in unacceptable delays and an inability to "close the books" in a timely fashion leading to added cost and administrative burden.	Ineffective (ERCOT) enforcement ability relating to reliability standards leads to gradual erosion of reliability.	Management information is insufficient (due to low accuracy and/or poor design) to enable management to effectively monitor and manage all aspects of the business.	Failure to properly review and timely file required information may result in incomplete, inaccurate, or late filings. Competing priorities may impact the accuracy and timeliness of filings.

- ❑ Complete Phase II of ERM roll-out to enter into 'operational phase' with ongoing reporting to Management and Board.
- ❑ Complete Enterprise-wide internal Risk Assessment and establishment of Risk Tolerance Levels and Mitigation Strategies.
- ❑ Coordinate ERM activities within ERCOT through a cohesive internal management framework across the existing areas of Internal Management Control and Internal Audit.
- ❑ Leverage management commitment to the ERM process to ensure ongoing training, risk-awareness, and commitment among ERCOT executives, managers, employees and market stakeholders.
- ❑ Incorporate leading industry risk management principals and concepts into corporate culture and ensure that ERCOT remains at the forefront with respect to risk management practices and operations.

Input, Questions, and Wrap-up