



DRAFT

2010 – 2014 ERCOT Strategic Plan
Electric Reliability Council of Texas, Inc.
(ERCOT)
Independent System Operator

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1. INTRODUCTION

The Electric Reliability Council of Texas (ERCOT) manages the flow of electric power to 22 million Texas customers — representing 85 percent of the state’s electric load and 75 percent of the Texas land area. As the independent system operator for the region, ERCOT schedules power on an electric grid that connects over 40,000 miles of transmission lines and more than 550 generation units. ERCOT also manages financial settlement of the competitive wholesale bulk power market and administers customer switching for 6.5 million Texans in competitive choice areas.

The ERCOT Board of Directors has overall responsibility for managing the affairs of ERCOT, including approval of the budget and capital spending priorities, approval of revisions to ERCOT protocols and guides, and endorsement of major new transmission infrastructure recommendations. ERCOT’s 16 member “hybrid” board includes five independent (or unaffiliated) members; three consumer segment representatives (industrial, commercial and residential); the ERCOT CEO; the PUCT Chairman (non-voting), and six representatives from each of the industry segments — investor-owned utilities, municipal utilities, cooperatives, generators, power marketers and retail electric providers.

Under the Board’s oversight, ERCOT’s stakeholder process is responsible for developing policies, procedures, and guidelines for power grid coordination, reliability, and market operations. Six standing Stakeholder committees and subcommittees supported by numerous working groups and task forces function within the stakeholder process.

Other than on issues arising under Federal Energy Policy Act of 2005 (EPAAct) provisions, ERCOT is subject to oversight by the Texas Legislature and is fully regulated by the PUCT. The PUCT oversees all ERCOT operations and has full authority to set funding for ERCOT. For most purposes, ERCOT, like the PUCT, is accountable to the Texas Legislature. For EPAAct purposes, ERCOT is accountable to the Texas Regional Entity (TRE), the North American Electric Reliability Corporation (NERC), and the Federal Energy Regulatory Commission (FERC).

2.1. ERCOT STRATEGIC PLAN

The strategies and objectives combined in this document are ERCOT's commitment to the future. The Strategic Plan sets the foundation that balances long-term objectives, annual goals, on-going operational priorities, and financial discipline. This is a living document, which must be reviewed and updated annually to address changes in the environment and the industry.

The plan outlines the Vision, Mission, Core Values, and Guiding Principles under which ERCOT will operate over the next five years, and defines the company's strategic objectives and initiatives during that time period.

2.1.1.1. ERCOT VISION – what is the desired future state.

To be innovative in providing a world class, cost effective, reliable electric grid and efficient electricity markets.

2.1.1.2. ERCOT MISSION – why the organization exists.

~~In collaboration with our stakeholders~~ ERCOT ~~will best serves~~ the public interest by:

- ensuring open access to transmission and distribution systems;
- maintaining system reliability and operations;
- enabling retail choice;
- operating fair and competitive wholesale markets; and
- maintaining the renewable energy credits registry; and
- provide providing leadership and independent expertise to policymakers, regulators and stakeholders to meet the needs of maintaining a reliable grid and facilitate markets improve system reliability and market efficiency.

2.1.1.3. CORE VALUES

The core values of our organization are those which form the foundation upon which ERCOT conducts its business. Our core values are:

- Accountability – taking personal responsibility ~~to do what needs to be done~~ for doing the right things the right way.
- Innovation – implementing and operating creative solutions.
- Customer focus – listening, responding and delivering quality services to our stakeholders.
- Integrity – committing to honest and ethical actions in all that we do.
- Respect – recognizing the worth and diversity of our people and their contributions ~~to our organization.~~
- Expertise – developing and ~~maintaining~~ demonstrating respected superior skill and knowledge in the industry.
- Leadership – ~~influencing people to achieve above the norm~~ developing a vision and ensuring its successful completion.

- Effectiveness – providing quality ~~and value~~ in a cost-efficient manner.
- Teamwork – working together to allow our organization to achieve its objectives.
- Communication – proactively sharing information internally and externally.

3.2. DRIVING FORCES

Factors that influence our decisions...

3.4.2.1. Business Environment

The primary objective of the ERCOT organization is the maintenance of the reliability of the electric grid; however, there is a correlation between actions taken to ensure reliability and the impact those actions have on prices within the market place. The market should be designed in such a manner to send accurate price signals and drive reliability. ERCOT is expected to balance the reliability, provide a reliable supply of electricity at a reasonable price and market expectations of for the consumers of Texas while working in a complex and transparent environment with the market participants, PUCT and Texas Legislature.

3.2.2.2. Delivering Technology Advances and Complex Services with Increasing Scrutiny of Costs within the Industry

~~The introduction of Advanced Metering technology to the grid enables the market to take advantage of quicker response times to price signals and supports the development of innovative retail product offerings such as: demand response, dynamic pricing, and time of use pricing. Additionally, through their Competitive Retailer, consumers can gain visibility into their electrical usage patterns thus managing their utility consumption by shifting load to off-peak hours.~~

As the number and complexity of services requested to be provided by ERCOT continue to increase so will the need for the organization to be transparent in the communication and education of the value of the services offered and the cost associated with their provision.

ERCOT will continue to work with our market participants to determine the cost/benefit of introducing advancing technologies evaluate technology advances within the industry and assess theirthe impacts to consumers. ERCOT will need to ensure the load consumption as compared to historical usage to ensure electric markets evolve to satisfy consumer expectations while maintaining grid reliability.

~~3.3. Increasing Scrutiny of Costs While Delivering More Complex Services~~

~~As the number and complexity of services requested to be provided by ERCOT continue to increase so will the need for the organization to be transparent in the communication and education of the value of the services offered and the cost associated with their provision.~~

3.4.2.3. Growth of Renewable Energy

The increase in renewable energy generation to meet the needs of the marketplace provides challenges of geographical limitations, intermittent nature, ~~and~~ transmission availability and system stability.

3.5.2.4. Changing Compliance Environment with More Stringent Standards

ERCOT exists within a unique compliance environment due to the unrivaled scope of ERCOT's NERC registrations. Ambiguous and/or expanding registration requirements imposed on the organization, volume of standards and audit documentation requirements, enforcement risk and asynchronicity of NERC and ERCOT terminology are some of the key

issues. In particular, ERCOT faces extensive cyber and physical security pressures and requirements.

3.6.2.5. Limited Pool of Critical Skilled Resources

The complexity of the ERCOT ISO environment and the technology required to execute the markets require highly skilled individuals who are in high demand but in little supply. As the ERCOT region transitions from a zonal to nodal market, ERCOT will be challenged to attract and retain individuals with subject matter expertise and familiarity with ERCOT processes as such attributes will become an increasingly valuable commodity in the market place.

4.3. STRATEGIC OBJECTIVES

Desired outcomes that require multiple years to achieve supported by prioritized initiatives...

- Manage the grid in a manner that maintains a high level of reliability.
- Effectively manage the evolution of the wholesale and retail markets to meet the changing business environment.
- Manage the interrelationships and dependencies between reliability actions and market impacts.
- Manage the deployment and stabilization of the nodal market which will ~~reduce~~ more efficiently direct-assign local transmission congestion costs, provide better price signals for locating generation and transmission, and develop a day-ahead market.
- Meet the increasingly demanding and complex requirements for compliance with Federal Reliability Standards and cyber and physical security requirements while ensuring ERCOT ISO's compliance with ERCOT Protocols and Operating Guides.
- Manage the complex systems, infrastructure and development processes to enhance and operate the grid and markets ~~to meet the needs of internal and external stakeholders~~.
- Develop and maintain productive external relationships through proactive, effective and comprehensive communications.
- Attract and retain the right people with the right skills in the right positions to develop a culture of excellence that empowers, incents recognizes and celebrates our achievements.
- Prudently ensure adequate funding for the provision of resources needed to pursue and achieve ERCOT's objectives.

STRATEGIC OBJECTIVE (1)	
Manage the grid in a manner that maintains a high level of reliability.	
INITIATIVES	
1.1	Study and provide recommendations with regard to <u>Lead the market in the development of strategy and policy to</u> and implementation of a comprehensive plan to reliably integrate renewable generation into the ERCOT grid.
1.2	Study and make recommendations regarding the development and implementation of <u>Develop and implement</u> a coordinated oversight process for generation interconnection through energizing to ensure study, <u>protocol</u> and data sufficiency.
1.3	Evaluate and recommend a plan to develop a back-up method of calculating transmission limits in the event of EMS failures.
1.4	Study and make recommendations to develop a long-term transmission framework <u>strategy</u> for the region and mechanism for incorporating that framework into mid-term transmission planning.
1.5	Evaluate and recommend a plan that that would assign responsibilities to Operator desks according to NERC registered functions (RC, BA, TOP, IA, TSP) and decide whether to implement the plan or identify reasons why it should not be done.
1.6	Examine best practices in Grid and market control and design. Prepare requirements, develop specifications, and facilitate installation of improved visualization tools for ERCOT operators to implement these best practices.
1.7	<u>To improve the potential for better operating decisions ERCOT will</u> identify , initiate and complete projects that will: <ul style="list-style-type: none"> a. Use synchrophasor data to improve dynamic study models and state estimator results. b. Provide system operators displays or applications using synchrophasors that will be of value in making operational decisions.
1.8	Examine and develop <u>Develop a strategy and processes to incorporate new technologies (such as:</u> Distributed Generation, Plug-in Hybrids, AMR-enabled DR/price response, and energy storage) into planning and operations.

STRATEGIC OBJECTIVE (2)	
Effectively manage the evolution of the wholesale and retail markets to meet the changing business environment.	
INITIATIVES	
Wholesale	
2.1	Study <u>Examine</u> and make recommendations in an effort to lead the <u>structured</u> evolution of the wholesale market in cooperation with Market Participants and Regulatory bodies.
	Evaluate impact of advanced metering on accuracy of settlements.
2.2	Evaluate opportunities for loads <u>and other technologies (such as energy storage)</u> to participate in Ancillary Service Markets.
2.3	<u>Implement a transparent pricing model to ensure appropriate price signals are communicated in support of a viable financial environment within the ERCOT market (need clarification from BOD).</u>
2.4	Study and make recommendations to continue to enhance and develop price validation tools.
2.5	<u>Study and make recommendations regarding the appropriate credit requirements to ensure continued financial stability within the ERCOT market.</u>
2.6	<u>Evaluate and implement market incentives to ensure the right mix of needed resources.</u>
	Assess the benefits of automating tools related to EILS bid evaluation.
Retail	
2.7	Study and make recommendations in an effort to lead the evolution of the retail market given advanced metering and technology deployment.
	Evaluate and implement additional AMS functionality requested by market (AMS meter flag, receive data from repository, etc.).
	Work with PUCT and Market Participants to develop faster connect/disconnect.

STRATEGIC OBJECTIVE (3)	
Manage the interrelationships and dependencies between reliability actions and market impacts.	
INITIATIVES	
	Evaluate impact analysis of Nodal parking deck items and recommend priority and release plan.
	Study and make recommendations regarding the correlation of reliability actions and market impacts.
3.1	Identify and recommend the tools/processes/people needed to assess and act upon the convergence of reliability and markets.
	Evaluate the impact to markets given the intermittency of wind supply.
	Study and make recommendations regarding the financial stability of the market given the deployment of the nodal market and the integration of renewables.
	Study and make recommendations regarding the appropriate financial measures to ensure continued financial stability within the ERCOT market.
3.2	Develop processes market and economic expertise to calculate expected impact of proposed protocol changes upon loss of load expectation, market efficiency, and revenue displacement (ie. winners/losers) ensure reliability and market impacts can be properly analyzed.

STRATEGIC OBJECTIVE (4)	
Manage the deployment and stabilization of the nodal market which will <u>reduce more efficiently direct-assign</u> local transmission congestion costs, provide better price signals for locating generation and transmission, and develop a day-ahead market.	
INITIATIVES	
4.1	Conduct Nodal Market <u>Model Validation and Market Trials and implement in preparation of Nodal system implementation.</u>
4.2	<u>Identify the funding mechanism for the implementation of Nodal stabilization releases.</u>
4.3	Plan and implement Nodal “Parking Deck” features and other prioritized enhancements and reliability/market initiatives.
4.4	<u>Define the specific criteria to be measured and analyzed to determine the level to which the success criteria of a nodal market are realized.</u>
4.5	<u>Devote expertise to recognize and remedy flaws in the market design.</u>

STRATEGIC OBJECTIVE (5)	
Meet the increasingly demanding and complex requirements for compliance with Federal Reliability Standards and cyber and physical security requirements while ensuring ERCOT ISO's compliance with ERCOT Protocols and Operating Guides.	
INITIATIVES	
5.1	Enhance and expand "Culture of Compliance" within ERCOT & Texas Interconnect.
5.2	Demonstrate compliance with all <u>ERCOT Protocol, NERC & FERC requirements through audits.</u>
5.3	Actively participate at the executive level in key committees and in partnership with NERC/FERC and ISO industry experts to address increasing developing cyber security policy requirements, changing reliability standards and functional model requirements (i.e. FBI, DOE, and Homeland Security).
5.4	Explore strategies to build a foundation of confidence through collaboration with our stakeholders.
	Develop partnerships with NERC/FERC and ISO industry experts to address increasing cyber security requirements, changing reliability standards and functional model requirements.
	Actively engage technical and regulatory experts in the development of NERC and regional reliability standards.
	Identify and evaluate potential improvements to the investigation and enforcement actions such that they are responded in a less reactive process and a more defined approach.
5.5	Explore strategies to align <u>Prioritize security initiatives to align</u> with IT infrastructure to defend ERCOT ISO sensitive information and critical assets.
5.6	Engage in development of NAESB and NIST Standards.
5.7	<u>Minimize NERC-related risk by achieving the best possible Reliability Standards, Study and make recommendations to get to the correct registration state, audit performance, and enforcement engagement.</u>

STRATEGIC OBJECTIVE (6)	
Manage the complex systems, infrastructure and development processes to enhance and operate the grid and markets to meet the needs of internal and external stakeholders.	
INITIATIVES	
6.1	Provide <u>cost effective</u> , high availability systems for ERCOT operations with proven recoverability.
6.2	Operate ERCOT systems while continually implementing <u>keeping abreast of advancing technologies and continually implementing</u> operational and performance improvements, e.g.: <u>visualization solutions to support system and process reliability, and enhanced automation to drive productivity improvements.</u>
6.3	Plan and relocate <u>Relocate</u> systems to the new data centers for to <u>provide enhanced reliability and to meet future growth.</u>
	Structure a business strategy, architecture, and planning process to define, prioritize, and communicate business objectives for delivery.
6.4	Implement an <u>business</u> integrated solution delivery process to effectively plan, manage, develop, integrate, test, and implement business solutions into ERCOT's systems.
6.5	Implement a strong technology vendor management relationship program to direct key vendors in providing product support and development services.
6.6	Implement Information Life Cycle Management <u>and System Life Cycle Management processes</u> to contain <u>manage systems demand and capacity</u> storage growth and associated costs.

STRATEGIC OBJECTIVE (7)	
Develop and maintain productive external relationships through <u>proactive, effective and comprehensive communications.</u>	
INITIATIVES	
7.1	Develop and maintain a comprehensive relationship matrix to build and maintain external relationships between Officers and Key Employees of ERCOT and critical external constituencies.
7.2	Develop and maintain a comprehensive and unitary repository of informational/educational and resource documents related to ERCOT, Inc. and the ERCOT market for use by ERCOT staff and executives and <u>make publicly available via the ERCOT website.</u>
7.3	Manage stakeholder, <u>media</u> and public inquiries through <u>ensuring</u> timely response with the aid of Subject Matter Experts (SMEs) as needed, and train all Staff to track and report contacts with federal and state legislators and regulators.
7.4	Continually develop effective key messages and the initiatives by which these messages will be disseminated to external constituencies.

STRATEGIC OBJECTIVE (8)	
Attract and retain the right people with the right skills in the right position to develop a culture of excellence that empowers, incents, recognizes and celebrates our achievements.	
INITIATIVES	
8.1	Evaluate and make recommendations to better define and <u>Implement improved the performance management and talent identification processes.</u>
8.2	Implement <u>cross-a training programs that addresses career and resource development and growing skills needed for advancing technologies and changing business drivers opportunities.</u>
8.3	Enhance the current succession planning process for Executive/Director level positions <u>that looks at the long-term direction of the organization</u> and evaluate the benefits of expanding the process to other positions within the organization.
8.4	Evaluate the <u>Enhance our recruiting and mentoring programs by capitalizing on ERCOT's image as industry leader in Retail, Wholesale and Systems and provide recommendations.</u>
	Assess the current HR/Payroll/Time tracking system and provide recommendations.
	Implement a management development program.
8.5	Assess available functionality in existing toolsets to automate processes <u>within support areas and implement recommendations.</u>
	Develop and maintain a long-term facilities plan.
8.6	<u>Enhance reward and recognition program to incent and celebrate achievements.</u>

STRATEGIC OBJECTIVE (9)	
Prudently ensure adequate funding for the provision of resources needed to pursue and achieve ERCOT's objectives.	
INITIATIVES	
9.1	Propose long term fee structure for ERCOT.
9.2	Propose long term debt structure that meets the needs of the organization and its stakeholders.
9.3	Analyze the cost/benefit options regarding facility relocation/consolidation and provide recommendations.
9.4	Create a 36 month rolling project horizon with annual projections to six years.
9.5	Implement an effective Vendor Management Office (VMO) to manage strategic contracts to ensure key deliverables, terms, and conditions are met on time and on budget.
9.6	Evaluate and implement efficiencies in Procurement Services.