



Item 4: ERCOT Strategic Goals

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Human Resources and Governance Committee
Meeting

ERCOT Public
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4.1 Update on 2016 Strategic Goals

Strategically adapt to changing resource mix

Initiative	Status
Tune short term load forecast.	With the Load Forecasting Enhancements project, the Energy Management System will be able to accept an external short-term load forecast in addition to the existing forecast; target November 2016.
Forecasting: Load (short-term and mid-term), Solar and Wind	<ul style="list-style-type: none"> • Tuning Mid-term Load Forecast; target Q4-16. • Solar and Wind forecasts are analyzed daily to monitor for improvements.
Inertia and Ancillary Service needs for changing Resources	<ul style="list-style-type: none"> • Project planned to productionalize inertia tools for the Control Room. Operator training is scheduled for Q3-16. • Will conduct educational presentations and work with Stakeholders on future inertia service to meet critical inertia need. • Develop incremental structural changes to Ancillary Services products.
Implement New Desk in Control Room	Project in process to develop tools and procedures for new desk and to hire and train new operators; target Q4-16.
Develop white paper on Switchable Generation Resources and align concepts with Reliability Coordinator agreements	<ul style="list-style-type: none"> • Published whitepaper Q3-16. • Drafting NPRR related to Current Operating Plan (COP) status; target publication Q4-16. • Develop NPRR addressing emergency operation conditions; target 2017.
Continued integration of intermittent resources: <ul style="list-style-type: none"> • Filed NPRR785, Synchronizing WGR and PVGR COPs with Short Term Wind and Photovoltaic Forecasts • Intra-hour Wind Forecast • Ability to override wind forecast 	<ul style="list-style-type: none"> • Synchronizes wind and solar forecasts with the COPs for WGRs and PVGRs, eliminating inconsistencies in updating COPs across different QSEs; to be considered at October 2016 Board. • Conducting performance review of ability to utilize a five minute ahead wind forecast for the next one hour. • Developed procedure and training complete Q3-16.

Strategically adapt to changing resource mix (continued)

Initiative	Status
<p>Improve understanding of changing system stability requirements:</p> <ul style="list-style-type: none"> - Develop and implement system strength analysis processes from Short Circuit Ratio study of Panhandle region 	<ul style="list-style-type: none"> • Study completed Q1-16. • Control room tool completed Q3-16.
<p>Draft an NPRR to better define technical requirements for limited-participation resources (e.g. Private Use Networks that do not offer into SCED).</p>	<p>Draft NPRR completed and under review.</p>
<p>Work with market to track growth of retail product offerings for dynamic pricing and other retail demand response incentives:</p> <ul style="list-style-type: none"> - Analyzing responses to price events and shifts in behavior by those reported in Time of Use programs 	<ul style="list-style-type: none"> • 4CP Demand Response analysis and participant counts in each of the retail DR categories included in 2015 Annual Report of Demand Response (posted March 2016). • Analysis for MW responses per category will be included in the 2016 Annual Report of Demand Response.
<p>Improve visibility and participation of distribution level resources:</p> <ul style="list-style-type: none"> - Develop white paper to outline options for distributed energy resource (DER) participation in markets, and supported Distributed Renewable Energy & Ancillaries Markets (DREAM) Task Force. 	<ul style="list-style-type: none"> • Presented ERCOT options matrix at April 2016 TAC. • DREAM TF disbanded with the understanding proposed initiatives could be advanced through the Revision Request process. • Drafted reliability white paper to outline effects of increased DER penetration (self dispatch and intermittent). Target publication Q4-16.

Provide thought leadership in support of continued improvements to operational reliability and markets

Initiative	Status
<p>Enhance Operational Reliability:</p> <ul style="list-style-type: none"> Facilitate transmission planning improvements; formalize load-scaling methodology Implement support for Remote Black Start training 	<ul style="list-style-type: none"> PGRR042 is scheduled for October ROS consideration. As a result of the Operator Training evaluation, ERCOT will not pursue Remote Black Start training at this time.
<p>Enhance Outage Scheduling:</p> <ul style="list-style-type: none"> Work with stakeholders in the Outage Coordination Task Force to identify high impact outages to more efficiently coordinate their submittal and approval. Implement NPRR219, TSPs Must Submit Outages for Resource Owned Equipment and Clarification of Changes in Status of Transmission Element Postings, and SCR783, Outage Scheduler Enhancements 	<ul style="list-style-type: none"> NPRR758, Improved Transparency for Outages Potentially Having a High Economic Impact, was approved June 2016. Preliminary development of the High Impact Transmission Element list is in progress and will be posted in advance of the implementation of the remainder of NPRR758. NPRR219 and SCR 783 implemented September 2016.
<p>Consider redesign of Ancillary Services to ensure ERCOT continues to maintain grid reliability as the ERCOT System and Resource mix continue to evolve.</p>	<ul style="list-style-type: none"> NPRR667 rejected by May 2016 PRS. Continue to work with stakeholders to identify incremental Ancillary Service adjustments to meet ERCOT system needs.
<p>Assess Environmental Regulatory Impacts:</p> <ul style="list-style-type: none"> Conduct studies as appropriate and communicate activities with Stakeholders 	<p>Conducting further analyses of potential transmission impacts of environmental regulations through the 2016 Regional Transmission Plan study; target completion Q4-16.</p>
<p>Development of rules to address risk of sub-synchronous oscillation (SSO) in the ERCOT region.</p>	<ul style="list-style-type: none"> Conducting detailed study with TSPs and selected Resource Entities to better define SSO criteria; target study results Q4-16. Stakeholder discussion on appropriate Protocol requirements for planning and operations; begin Q1-17.



Provide thought leadership in support of continued improvements to operational reliability and markets (continued)

Initiative	Status
<p>Evaluate Multi-Interval Real-Time Market (MIRTM):</p> <ul style="list-style-type: none"> • Develop requirements and simulator for MIRTM to evaluate potential net benefits • MIRTM and Real-Time Co-optimization issues being raised to the PUCT for discussion 	<ul style="list-style-type: none"> • MIRTM evaluation efforts continue; target completion December 2016. • At 9/8/16 Open Meeting, PUCT Commissioners discussed potential of implementing MIRTM and Real-Time Co-optimization.
<p>Explore improvements to scarcity pricing during Energy Emergency Alert, Emergency Response Service, Load Resource deployment:</p> <ul style="list-style-type: none"> • Evaluate changes to Operating Reserve Demand Curve • Support stakeholder discussions to further develop concept of enabling additional Resources to contribute to Real-Time price formation and to expand access to the Real-Time Energy Market 	<p>PUCT opened Docket No. 45572, Review of the Parameters of the Operating Reserve Demand Curve.</p>
<p>Phasor Measurement Units</p>	<p>Vendor selection project for PMU analysis software is in progress; planning phase began Q2-16.</p>
<p>Market Restart</p>	<p>Market continuity discussions are ongoing with stakeholders in various subcommittees and working groups.</p>

Deliver channels and tools to stakeholders for enhanced communication and increased transparency and access

Initiative	Status
<p>Implement Enterprise Content Alignment Program (ECAP) strategy and roadmap. ECAP projects include:</p> <ul style="list-style-type: none"> • Identity Alignment – Update external channels to reflect ERCOT Identity standards. • Governance and Taxonomy - Define enterprise Information Governance policies and Taxonomy/Metadata framework • Enterprise Content Management (ECM) Proof of Concept - Define, validate and recommend enterprise content management solution. 	<ul style="list-style-type: none"> • Completed Q2-16. • Vendors are interviewing ERCOT groups to create data maps for the taxonomy framework. • Project planning phase began Q2-16.
<p>Improve communication consistency of Grid conditions by improving the reliability and performance of grid communication information technology.</p>	<ul style="list-style-type: none"> • Phase I (health check monitoring of all critical components) completed. • Next phase is to evaluate manual, twice a year, end-to-end tests; target start Q2-17.
<p>Assist with evaluation of Smart Meter Texas transition options.</p>	<p>Supporting PUCT activities as needed via Docket No. 46204, Rulemaking regarding Third Party Authorization to Access Smart Meter Texas Data and Docket No. 46206, Rulemaking regarding Governance, Performance, and Funding of Smart Meter Texas.</p>
<p>Develop data services to support Market Participant needs:</p> <ul style="list-style-type: none"> • Engage in market forums to discuss potential changes for external web services strategy • Implement MP Online functionality: Automate some manual Generation Interconnection or Change Request (GINR) processes to reduce errors and increase efficiency 	<ul style="list-style-type: none"> • Ongoing presentations to Working Groups and Subcommittees followed by SCR submission; target Q1-17. • Project planning phase began Q3-16.
<p>Full Interconnection Study process changes</p>	<ul style="list-style-type: none"> • Drafted Planning Guide Revisions to improve transparency and expectations related to new generation. • Initiative for periodic stability studies for groups of planned generators is being discussed at the Planning Working Group; target Q1-17 approval.



Continually enhance our cyber and physical security posture

Initiative	Status
Participate in NERC Grid Ex IV 2017 planning and exercise	Participating in NERC Grid Ex IV planning.
Continue progress on Critical Infrastructure Security Roadmap	Average 75% complete.
Continue collaborative efforts on security issues	Ongoing work with various Industry/Government groups on security issues.
Coordinate Grid Resilience Working Group	Reviewing risks that have a low probability of occurrence but potential high consequence of impact to the ERCOT System if they were to occur.

Develop ERCOT resources - people and technology

Initiative	Status
Implement Technology Refresh (DC4 Project)	<ul style="list-style-type: none"> Majority of program projects have been initiated. Purchases made and in various states of deployment/planning for network Infrastructure, database server infrastructure, and x86 application server infrastructure. Database storage is in procurement. High-level application wave migration planning is complete.
Implement CIPv5 Readiness	Completed Q3-16.
Implement major upgrades: <ul style="list-style-type: none"> Network Model Management System (NMMS) Energy Management System (EMS) Congestion Revenue Rights (CRR) Framework Credit Monitoring and Management System (CMM) Enterprise Resource Management System (HR and Finance) 	<ul style="list-style-type: none"> Factory Acceptance Testing and Site Acceptance Testing underway. Revised go-live is Q4-16 with alternate go-live Q1-17. Completed Q2-16. Project initiated Q4-15; in Planning phase. Project initiated Q4-15; in Planning phase. Project in Execution phase. HR functions go-live September 2016. Finance and Procurement functions scheduled go-live October 2016.
Implement Manager Development program	<i>Managing at ERCOT</i> class in progress.
Optimize ERCOT release management and change management procedures and processes	Planning effort underway to provide an evaluation of the current state of the Information Technology Change Management system and the new Configuration Management System, and to recommend future improvements.
Improve internal access management	Identity and Access Management Evaluation project initiated to assess vendor and product capabilities, research professional services and perform product evaluations.
Implement Governance Risk and Compliance system <ul style="list-style-type: none"> Reviewing ERCOT must/shall/will Protocol and Market Guide requirements and controls 	GRC System populated and tracking requirements and controls related to ICMP, NERC, and Protocol Must/Shall/Will; completed Q2-16. <ul style="list-style-type: none"> Protocol review 100% complete.



4.2 Review of 2017 Strategic Goals

Strategic Planning Session Summary

- 10 strategic sessions held in August with each Market Segment and the Unaffiliated Board Members
- Broad stakeholder participation
 - 50 in person
 - 50+ via WebEx/phone
- Support for maintaining current strategic goals

2017 ERCOT Strategic Goals

In support of its mission to serve the public by ensuring a reliable grid, efficient electricity markets, open access and retail choice, ERCOT's goals are to:

1. Anticipate and Strategically adapt to changing resource mix:
 - Generation Resources
 - Demand Response
 - Distribution Level Resources
2. Provide thought leadership in support of continued improvements to operational reliability and markets
3. Deliver channels and tools to stakeholders for enhanced communication and increased transparency and access
4. Continually enhance our cyber and physical security posture
5. Develop ERCOT resources – people and technology

Strategic Planning Session Feedback Summary

- General support for key areas of focus:
 - Monitoring inertia; proactively defining changes if needed
 - Preparing for generation that may retire sooner than anticipated
 - Refining the RMR process
 - Establishing visibility into development of Distributed Energy Resources
 - Completing current transmission planning process review in 2017
 - Establishing general policies for market re-start process
 - Standardizing the Full Interconnection Study process
 - Continuing to enhance security posture while focusing on organizational resilience

Strategic Planning Session Feedback Summary

- Differing Segment views on:
 - Real-Time Co-optimization
 - Multi-Interval Real-Time Market
- Consistent communication regarding the importance of:
 - Regulatory certainty
 - Providing evidence to support major market changes
 - Recognition of the energy only market construct
 - Resource adequacy
 - Timely communications