To:	Board of Directors
From:	H.B. "Trip" Doggett, ERCOT President and Chief Executive Officer
Date:	April 9, 2012
Re:	Quarterly Board Strategic Planning Update

ERCOT's 2012 – 2016 Strategic Plan and

Supporting Capital Projects

First Quarter Review

The ERCOT organization has recently transitioned the management of the Strategic Planning process to the Business Integration organization.   This move is intended to enhance the alignment of the high-level strategic initiatives identified on the Strategic Plan with the project initiatives identified on the Capital Project list.   ERCOT is pleased to present the following, high-level status update regarding capital project efforts initiated and/or currently planned that support the ERCOT's strategic vision to:

> Proactively communicate resource and transmission adequacy risks to our stakeholders and pursue opportunities to address those risks through emerging technologies and new market products.

Please note that although some strategic initiatives do not have corresponding project initiatives, efforts continue on those initiatives through operational activities that are not documented on the Capital Project list.   In order to show the strategic objectives and initiatives in context, the initiatives not associated with project activity are also listed below.   ERCOT staff will be available to discuss its efforts on those strategic initiatives upon request.

Strategic Objective One: Manage the grid in a manner that maintains a high level of reliability.

- Initiative 1.1: Lead the market in the development and implementation of strategy and policy to integrate emerging technologies (such as storage, demand response, plug-in hybrids, distributed generation, and renewable generation) into the planning and operation of the ERCOT grid.
    - Transient Security Analysis Tool (TSAT) Wind Model
        - Implementation of wind models in TSAT application
    - Reactive Power Capability Requirement
        - Potential project relating to the Reactive Power Capability Requirement of Generation Resources
    - Wind Forecasting Change to P50, Sync with Protocol Revision Request (PRR)841

- Changes the wind forecasting methodology to use a 50% probability of exceedance calculation instead of an 80% for Reliability Unit Commitment (RUC) considerations
  - Creation of a Wind Resource Group for Generation Resource Energy Deployment Performance (GREDP) and Base Point Deviation Evaluation
    - Provides that Wind-powered Generation Resources (WGRs) meeting registration requirements will be evaluated for GREDP and Base Point Deviation as groups of WGRs rather than individual WGRs.
  - Support for New Resource Types in ERCOT Systems
    - Analysis of ERCOT systems to support new resource types

- Initiative 1.2: Study and make recommendations to develop a long-term transmission strategy for the region and mechanism for incorporating that framework into mid-term transmission planning.
  - Recommended Changed Needed for Information Model Manager and Topology Processor for Planning Models
    - Proposes changes to the Information Model Manager and Topology Processor to fix a number of deficiencies with the proposed Annual Planning Model creation process.
  - Planning Site Transition to Market Information System (MIS)
    - Increase efficiency by consolidating to a single portal and prevent the need to maintain two systems
  - Incremental Update Capability
    - Second phase of project to provide incremental update capability to all production systems for all model related data
  - State Estimator Data Redaction Methodology
    - Defines a redaction methodology for the posting of State Estimator data
  - Common Information Model (CIM) Upgrade for Network Model Management System (NMMS)
    - Update ERCOT NMMS model schema from CIM 10 to CIM 14 to be consistent with industry standards

- Initiative 1.3: Proactively work with Market Participants to ensure operational readiness.
  - Change in Resource Outage Approvals from eight (8) to forty-five (45) days
    - Revises the deadline for ERCOT approval of Resource Outages from an 8-day notice to a 90-day notice while aligning the new Resource Outage timelines to match those of Transmission Outages
  - Generation Resources Start-up and Shut-down Processes
    - Removes Protocol language concerning the use of the "ONTEST" Resource Status during start-up and shut-down. Language has been added to address the start-up and shut-down processes.
  - Unit De-selection
    - Provides that ERCOT may deselect units from Reliability Unit Commitment (RUC) processes
  - Emergency Interruptible Load Service (EILS) Dispatch Sequence and Performance Criteria Upgrades

- Improves the operational value of EILS and strengthens and clarifies a number of performance criteria for EILS
  - o Updating the Term Resource Plan to Current Operating Plan / Availability Plan
    - Replaces the term "Resource Plan" with the term "Current Operating Plan" or "Availability Plan". Also adds a Black Start capable status indicator to the Availability Plan.
  - o Outage Capacity Calculation Tool
    - Provide resource outage data for both daily operations and future outage coordination studies

- Initiative 1.4: Develop and implement a coordinated oversight process for generation resource interconnection through operation to ensure study, protocol, data and operational sufficiency.
  - o Resource Asset Registration Form (RARF) Update for Wind, Solar, and Storage Resources
    - Update the RARF and RARF Hub database to increase the data collected for Wind and add necessary data section for Solar Photo Voltaic (PV) and Duration Limited Resources.
  - o Market Participant (MP) Online Data Entry
    - Improve and automate the process used to update the (RARF)

- Initiative 1.5: Prepare requirements, develop specifications, and facilitate installation of improved visualization tools for ERCOT's operators.
  - o Market Analyst Interface (MAI) Conversion to iGrid
    - Combine various supplemental operator tools into a set of integrated dashboards
  - o Market Participant (MP) Communications Tool
    - Create a tool to be placed in Market Participant control rooms to ensure their receiving continual high-level status information (e.g., Energy Emergency Alert status), and provide a primary means of ERCOT providing (and confirming receipt of) instructions
  - o Operator Awareness (OA) Grid Health Operator View
    - Give operators a view into overall grid health that incorporates a variety of operational parameters into a single graphical dashboard interface

Strategic Objective Two: **Effectively manage the evolution of the wholesale and retail markets to meet the changing business environment.**

- Initiative 2.1: Study and make recommendations to maintain current capacity levels and incentivize new resource entry through the structured evolution of the wholesale market in cooperation with Market Participants and Regulatory bodies.
  - o Definition and Participation of Quick Start Generation Resources
    - Enhances participation of Quick Start Generation Resources (QSGRs) in Security Constrained Economic Dispatch (SCED)

- Initiative 2.2: Develop and devote expertise to recognize and remedy flaws in the market design.
    - Real-Time Point-to-Point (PTP) Option Modeling
        - Modifies PTP Options in the Day Ahead Market (DAM) that have been declared by a Non-Opt In Entity (NOIE) before the DAM execution to be settled in Real-Time and are still held by that NOIE in Real-Time such that they are considered as PTP Obligations for purposes of the DAM model
    - Security Constrained Economic Dispatch (SCED) Look-Ahead Step 1: Pricing
        - Calculate Non-Binding Prices and Base-points for Initial Research into SCED Look-Ahead and allow Consumers to have a Forward Price Projection
    - Half Hour Start Unit Reliability Unit Commitment (RUC) Clawback
        - Removes RUC Clawback on all Half-Hour Start Units (a) that participate in the Day Ahead Market (DAM) and (b) during Energy Emergency Alert (EEA) events. Also changes the RUC Clawback on all Half-Hour Start Units that did not participate in the DAM to 50%.
    - Adjust the Calculation of the Real-Time Settlement Point Price for a Resource Node
        - Adjusts the calculation of the Real-Time Settlement Point Price for a Resource Node. The adjustment is to remove the Base Point weighting of the Real-Time Locational Marginal Prices (LMPs).
    - Allow Change to Energy Offer Curve MW Amounts in the Adjustment Period for Qualifying Facilities
        - Provides the ability for Resources to change the amounts of power in their Energy Offer Curves in the Adjustment Period
    - Requirement to Post Generation Resources Temporal Constraints
        - Specifies the need for ERCOT to post to the Market Information System (MIS) Certified Area the current time since a Generation Resource last went Off-Line (in hours) and the corresponding startup time ERCOT is using for of all Off-Line Generation Resources which may be considered in any Reliability Unit Commitment (RUC) process
    - Congestion Revenue Right (CRR) Auction Offer Award Disclosure
        - Adds a requirement for ERCOT to post CRR Auction offer awards following each CRR Auction in the exact fashion CRR Auction bid awards are currently posted on the Market Information System (MIS) Public Area
    - Adjust the Calculation of the Real-Time Settlement Point Price for a Load Zone
        - Removes the energy-weighting in the current calculation for the Real-Time Settlement Point Price (RTSPP) for a Load Zone
    - Summary Report of HDL and LDL
        - Creates a new posting for the sum of High Dispatch Limit (HDL) and the sum of Low Dispatch Limit (LDL) and any Generation Resource instances of manual overrides of HDL or LDL to the Market Information System (MIS) Public Area after every Security Constrained Economic Dispatch (SCED) run

- Real-Time Wind Power Production Data Transparency
  - Adds a new public report that provides, on both a system-wide and regional basis (West and North, South and Houston), the five-minute actual wind power production for a rolling historical 60-minute period
- Alternate Inputs to Base Point Deviation Charge
  - Aligns the Adjusted Aggregated Base Points (AABP) formula with the inputs to the Generation Resource Energy Deployment Performance (GREDP) measure

- **Initiative 2.3:** Evaluate opportunities for loads and other technologies (such as energy storage) to participate in the wholesale market.
  - Introduction and Definition of Duration-Limited Resources
    - Defines Duration-Limited Resource (DLR) and amends the General Capacity Testing Requirements to reflect operational characteristics of this type of Resource

- **Initiative 2.4:** Ensure appropriate operational changes are implemented to respond to changing regulatory requirements associated with a potential exemption from the Commodity Exchange Act (CFTC).
  - Implementation of NPRR347 and NPRR400
    - CFTC, Single Daily Settlement Invoice

- **Initiative 2.5:** Ensure credit requirements are appropriate to support continued financial stability within the ERCOT market.
  - Revisions to Collateral Requirements Concerning Congestion Revenue Rights (CRR) Auctions
    - Proposes revisions to collateral requirements for CRR Auctions including a pre-CRR Auction screening process to determine the maximum potential exposure of each CRR Account Holder

- **Initiative 2.6:** Study and make recommendations in an effort to lead the evolution of the retail market given advanced metering and technology deployment.
  - Texas Standard Electronic Transaction (SET) 4.0
    - TX SET project to include reconnect / disconnect, Advanced Metering System (AMS), Acquisitions, Meter Tampering

- **Initiative 2.7:** Continuously enhance the management and provision of data by partnering with Market Participants to identify, document and implement requirements.

- **Initiative 2.8:** Study and make recommendations to enhance the management and flow of data in the Smart Meter Texas (SMT) data repository.

Strategic Objective Three: Continue to demonstrate a reputation of excellent reliability performance while meeting the increasingly demanding and complex requirements for compliance.

- Initiative 3.1: Enhance and expand "Culture of Compliance" within ERCOT and Texas Interconnect.
  - Compliance Software Tool
    - Purchase and implement Security and Reliability Compliance Business Enterprise Tracking and Support Software
  - Quality Training Database
    - Implementation of tool for compliance with North American Electric Reliability Corporation (NERC) PER-005 (System Personnel Training)

- Initiative 3.2: Ensure ownership and compliance with all ERCOT Protocol, North American Electric Reliability Corporation (NERC) and Federal Energy Regulatory Commission (FERC) requirements and achieve the best possible Reliability Standards registration state, enforcement engagement and audit performance.

- Initiative 3.3: Actively participate in industry committees and in partnership with NERC/FERC and ISO industry experts to address increasing cyber security requirements, changing reliability standards, North American Energy Standards Board (NAESB) standards and business processes.

- Initiative 3.4: Collaborate with our stakeholders on Working Groups such as Critical Infrastructure Protection (CIP), 693, and Transmission Operators Memorandum of Understanding (TOPMOU).

- Initiative 3.5: Prioritize security initiatives to align with IT infrastructure to defend ERCOT ISO sensitive information and critical assets.

  - Six (6) projects are currently identified on the capital project priority list to support this Strategic Initiative. For security sensitive reasons, we have not individually listed said projects.

Strategic Objective Four: Develop and maintain productive external relationships through proactive, effective and comprehensive communication.

- Initiative 4.1: Disseminate timely, key message to inform and educate external constituencies such as the Governor's office, members of the Texas Legislature, the PUCT, other pertinent state and federal agencies, stakeholders within the ERCOT region (Market Participants and Consumers), and the ERCOT Board of Directors.
  - ERCOT Website Enhancements
    - Improve the presentation layer to better serve the unique requirements of the various stakeholders within the ERCOT market.

- Initiative 4.2: Expand ERCOT's exposure within Texas, nationally and internationally, by providing expert testimony to "like" entities regarding ERCOT's approach to successfully achieving its organizational mission.

- Initiative 4.3: Develop and implement effective outreach strategies for reaching all constituencies during times of grid alerts and appeals for conservation to include the use of social media in addition to media and government relations methods.
  - ERCOT Mobile
    - Create a smart-device application for public consumption, showing a high-level view of system status, offering user-approved messaging for conservation calls, and creating an interface for ERCOT public relations to disseminate information

- Initiative 4.4: Communicate effectively during Texas Legislative and Congressional sessions on issues of importance to ERCOT and the Market by providing timely, accurate and useful resource information regarding how ERCOT serves the public interest of Texas as a trusted and objective independent system operator.

- Initiative 4.5: Enhance our understanding, mitigation and communication of risks and their potential impact to ERCOT, its operations and its markets.

Strategic Objective Five: Attract, develop 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.

- Initiative 5.1: Continuously review the organizational structure and skills required to implement needed changes to ensure ERCOT is providing services in the most efficient and cost effective matter.

- Initiative 5.2: Drive performance management and talent identification processes.

- Initiative 5.3: Provide training that addresses career development and growing skills needed for advancing technologies and changing business drivers.
  - Operator Training Simulator Enhancements
    - Provide improvements and new tools that will enable the trainers, who are playing the role of 13 Transmission Operators and 30+ Qualified Scheduling Entities at any given time, to respond in more of a real-world timeframe

- Initiative 5.4: Enhance the current succession planning process for Executive/Director level positions that looks at the long-term direction of the organization and evaluate the benefits of expanding the process to other positions within the organization.

- Initiative 5.5: Capitalize on ERCOT's image as industry leader in Retail, Wholesale and Grid Operations.

- Initiative 5.6: Celebrate achievements through reward, recognition and incentive programs.