ERCOT Update

Thomas F. Schrader, President and CEO

House Committee on Regulated Industries
November 14, 2005

ERCOT’s VISION is for Texas electricity customers to realize the greatest value possible from reliable electric power supplies and access to competitive markets for electricity.
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ERCOT’s Major Roles

- Grid operations
- Grid reliability
- Transmission planning
- Market operations
  - Wholesale settlement & billing
  - Retail transaction data & registrar of choice
- Source of facts & data
ERCOT Region & Quick Facts

Electric Reliability Council Of Texas

- Independent, not-for-profit organization since 1941
- Intra-state electric interconnection
  - 1 of 3 North American interconnections
  - Connected only by DC ties
- One of 10 NERC Regional Reliability Councils
- Independent System Operator
  - Administrator of the wholesale & retail markets
  - Neutral registration agent for retail customers
  - Supervisor of the transmission planning process
- Public Utility Commission of Texas (PUCT) jurisdictional
ERCOT Market Operations

• 6.1 million customers have the “Power to Choose”
• ERCOT is central hub of retail transaction system
  – Registration agent for all of these customers and their retail providers
    • Independent, neutral entity to facilitate customer switching
    • Assures transmittal of meter read data to proper REP
  – ERCOT has now completed more than 16.2 million primary transactions (mostly switches, move-ins, move-outs)
    • YTD switches averaging 58,000 per month
    • YTD move-ins averaging 212,000 per month
  • Each primary transaction backed by numerous supporting transactions
  • Standardization lowers transaction costs for all
  • Customer complaint levels related to choice are low
• No other ISO in North America has these responsibilities
• ERCOT market operations are the cornerstone for settlement for 100% of market
• ERCOT manages markets totalling approximately $1 billion annually for Balancing Energy & Ancillary Services
ERCOT Region Facts & Figures

- **200,000 square miles**
  - 75% of Texas land area (not including Panhandle, El Paso area, 2 areas of East Texas)
  - 85% of Texas load
  - 20 million end-use customers

- **38,000 miles of transmission lines**
  - Nearly 700 miles of 345 KV lines added since 1999

- **77,000 MW of total resources**
  - 583 generation facilities
  - 26,000 MW new generation capacity added since 1998

- **60,270 MW peak load (2005)**
- **16.9% reserve margin for 2005**
- **3 DC Ties**
- **Single point of control**
ERCOT System Administration Fee

Fee 1999-2006

Current Fee: $.42 per MWh

Residential Electric Bill
Approximate breakdown

ERCOT (part of energy cost)
Customers Choosing Competitive Retail Providers
As of 9/30/05

<table>
<thead>
<tr>
<th>Category</th>
<th>Customers</th>
<th>Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>27%</td>
<td>34%</td>
</tr>
<tr>
<td>Small Non-residential</td>
<td>31%</td>
<td>79%</td>
</tr>
<tr>
<td>Large Non-residential (&gt;1MW in peak demand)</td>
<td>73%</td>
<td>73%</td>
</tr>
</tbody>
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Over 2.2 million total switches completed to date
ERCOT Reserve Margins

ERCOT Reserve Margins
1999-2010

Generation Capacity
by Fuel Type
## Electric generation fuel sources in ERCOT

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<tr>
<th>Fuel Source</th>
<th>% Capacity (Summer ’05)</th>
<th>% Energy (Jan.-Sept. ‘05)</th>
</tr>
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<tr>
<td>Natural Gas</td>
<td>72%</td>
<td>47%</td>
</tr>
<tr>
<td>Coal</td>
<td>20%</td>
<td>38%</td>
</tr>
<tr>
<td>Nuclear</td>
<td>6.5%</td>
<td>13%</td>
</tr>
<tr>
<td>Renewables/Other</td>
<td>1.5%</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Dual fuel-capable plants are currently configured for gas*
New Generation Activity

Planned Generation by In-Service Year (public)

- Natural Gas
- Coal
- Wind
- Other


Nameplate MW:
- 2005: 316 (Natural Gas)
- 2006: 1,333 (Natural Gas)
- 2007: 925 (Natural Gas)
- 2008: 2,050 (Natural Gas)
- 2009: 3,510 (Natural Gas)
- 2010: 800 (Coal)
- 2011: 630 (Coal)
New Generation Activity by Region

In-Service Year
- 2005 (180 MW)
- 2006 (1,739 MW)
- 2007 (475 MW)
- 2008 (2,050 MW)
- 2009 (3,510 MW)
- 2010 (800 MW)
- 2011 (650 MW)

Planned Units:
- Horse Hollow 2
- Buffalo Gap 1 and 2
- WKN Snyder 1
- Big Spring Carbon Plant
- Orion Delaware Mt.
- Mesquite Wind 1
- Cobisa
- Silver Star 1
- Sandy Creek
- Oak Grove
- Twin Oaks III
- J. K. Spruce 2
- Gulf Wind 1-4

Dots do not reflect actual location of the unit in the county.
## New Generation Activity -- Total

Capacity in MW

<table>
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<th>Fuel Source</th>
<th>Public</th>
<th>Non-Public</th>
<th>Total</th>
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<tr>
<td>Natural Gas</td>
<td>2,370</td>
<td>2,590</td>
<td>4,960</td>
</tr>
<tr>
<td>Coal</td>
<td>4,450</td>
<td>625</td>
<td>5,075</td>
</tr>
<tr>
<td>Wind</td>
<td>2,282</td>
<td>4,131</td>
<td>6,413</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>425</td>
<td>437</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>9,114</strong></td>
<td><strong>7,771</strong></td>
<td><strong>16,885</strong></td>
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**NOTE:** Includes projects under consideration or in planning that may or may not be built.
New Transmission Investment

Major Transmission Additions Completed

New Transmission Investment
1999-2009

[Map of Texas highlighting major transmission additions with cities like Dallas-Fort Worth, San Antonio, Laredo, Corpus Christi, McAllen-Harlingen-Brownsville.]
Transmission Planning

- Transmission planning & development are key elements supporting a competitive market
- ERCOT leads an open, stakeholder-based planning process
- ERCOT region produces more results (projects, line miles) than any other region of the U.S.
- Major transmission projects initiated in 2005:
  - DFW
  - West Houston
  - Rio Grande Valley
Transmission Planning Studies 2005-06

• Report on Existing & Potential System Constraints
  – The annual “October 1 Report”
• Special study underway to identify projects to relieve marginal cost differentials
  – Due to PUC by Jan. 31
• Senate Bill 20 Studies (due by 12/31/06)
  – Competitive Wind Zones
  – Long-Term Transmission Planning
ERCOT Audits

• PUC-ordered audits in 2004
  – Vulnerability to hacking (CanAudit)
  – Internal business controls assessment (Deloitte)
  – Internal security procedures (Ernst & Young)

• Other audits
  – SAS 70 (PwC): 2005 audit now complete
  – Annual financial audit (PwC): 2005 audit complete
  – ERCOT internal audit program (ongoing)
  – Comptroller review: completed May 2005

  No compromises to grid reliability or market data found in any of the audits.

• Management Action Plan ongoing
  – Internal Control Management
  – Enterprise Risk Management

• 168 of 288 audit points now completed and verified
Management Action Plan (MAP)

- Audits
  - Internal Control Environment
    - Internal control management program
    - Cultural change
    - Roles & responsibilities
    - Internal Audit
- Roadmaps
  - Specific Projects
    - Fixed asset inventory
    - Lawson
    - Policies & procedures
    - Security initiatives
    - HR projects
  - Process Redesign
    - Fixed asset management
    - Contracting & procurement
    - Hiring
    - Other TBD
- Fee Settlement
- Mgmt. Planning & Practices
  - Management Activities
    - Mission/visiongoals
    - Org. structure
    - Budget -- review of activities/expenses
    - Cost tracking
    - Risk assessment
    - Mgmt. reporting
Senate Bill 408 – Implementation Update

• Amended Bylaws approved by Membership this month
  – Adds 2 independent ERCOT Board members (unaffiliated with industry)
    • Board member search underway using independent search firm
  – Adds conflict of interest requirements for Board members
  – Requires Board meetings to be open and posted in advance

• Independent Market Monitor support
  – ERCOT to fund and support monitor selected by PUC
  – Monitor reports to PUC
  – RFI/RFQ currently posted to identify candidates
  – PUC rulemaking underway
ERCOT’s MISSION is to direct and ensure reliable and cost-effective operation of the electric grid and to enable fair and efficient market-driven solutions to meet customers’ electric service needs.