RESOURCE ADEQUACY AND WATER

Trip Doggett
President & CEO
ERCOT

House Natural Resources
June 28, 2012
WHAT TO EXPECT THIS SUMMER

• ERCOT expects tight reserves this summer. There is a significant chance that ERCOT will need to declare an Energy Emergency Alert (EEA) on multiple occasions during the summer of 2012. However, these EEA declarations are not likely to result in the need for rotating outages.

• If a higher-than-normal number of forced generation outages occur during a period of high demand, or if record-breaking weather conditions similar to last summer lead to even higher-than-expected peak demands, the ERCOT system is likely to have insufficient resources available to serve those demands. This insufficiency would result in the need for rotating outages to maintain the integrity of the system as a whole.

• Drought conditions have improved during the winter and spring on many river basins. Reservoir levels are not expected to drop below power plant physical intake limits during summer 2012, but potential risks exist under ongoing drought conditions.
**MAY 2012 CAPACITY, DEMAND AND RESERVES REPORT (CDR)**

- **Resources**
  - MW Currently Installed Resources
  - MW under Interconnection Agreements
  - Coal Projects under FIS
  - Natural Gas Projects under FIS
  - Other Fuel Projects under FIS
  - Wind Projects under FIS
  - Solar Projects under FIS
  - Forecast
  - Forecast + Reserve

* FIS = Full Interconnection Studies

**Firm Load Forecast + 13.75% Reserve**

**Firm Load Forecast**

**JUNE 28, 2012**

**HOUSE NATURAL RESOURCES**
Challenges and Ideas:

– **Generation**
  - Water conservation measures
  - New technologies
  - Ideas to optimize use of existing water supply
  - Consideration of back up supply

– **Transmission**
  - Equipment contamination/flashovers & mitigation
  - Emergency coordination
  - Wildfire risk
SURFACE WATER SUPPLIES AT 10-YEAR LOWS (Oct 2011)

SURFACE WATER RESERVOIRS AT 10 YEAR LOW
(as of Oct. 2011)
## Lake Levels Update – 01 June 2012

<table>
<thead>
<tr>
<th>Surface Water &amp; (MW)</th>
<th>*Level @ Full Conservation Pool</th>
<th>*Level on Jan 1, 2011</th>
<th>*Level on Oct 7, 2011</th>
<th>*Level on June 01, 2012</th>
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<tbody>
<tr>
<td>Lake Texana (56)</td>
<td>44.50</td>
<td>41.00</td>
<td>32.81</td>
<td>43.00</td>
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<tr>
<td>Bardwell Lake (312)</td>
<td>421.00</td>
<td>420.71</td>
<td>416.23</td>
<td>420.96</td>
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<tr>
<td>Lake Colorado City (407)</td>
<td>2,070.20</td>
<td>2057.33</td>
<td>2052.4</td>
<td>2051.46</td>
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<td>Lake Ray Hubbard (916)</td>
<td>435.50</td>
<td>432.37</td>
<td>429.22</td>
<td>434.92</td>
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<td>Lake Granbury (983)</td>
<td>693.00</td>
<td>691.90</td>
<td>686.27</td>
<td>691.70</td>
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<td>Lake Houston (1016)</td>
<td>41.73</td>
<td>42.10</td>
<td>36.76</td>
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<td>Twin Oaks Reservoir (1616)</td>
<td>400</td>
<td>398.87</td>
<td>398.27</td>
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<tr>
<td>Lake Limestone (1689)</td>
<td>363</td>
<td>359.03</td>
<td>354</td>
<td>362.15</td>
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<td>Martin Lake (2425)</td>
<td>306</td>
<td>300.48</td>
<td>295.06</td>
<td>301.85</td>
</tr>
</tbody>
</table>

* In Feet above Mean Sea Level
ERCOT ACTIONS TO MANAGE DROUGHT IMPACT

- Survey generation entities in the state and review drought concerns and possible mitigations
- Identify water resources used by electric generation that were at historically low levels
- Review public sources regarding state and regional water plans
- Coordinate plans and activities with TCEQ staff and drought response teams
- Conducted a workshop on 27 February 2012 to share best practices relevant to drought conditions
- Increased communication with water permitting entities, users, and stakeholders
- Provide regular updates on water resources to ERCOT Board of Directors
ERCOT Mobile App

- iPhone and Android Phone users
- Pop up notifications
- Applications for first release
  - Conservation Spotlight
  - Load Forecast versus Actual graph
  - ERCOT Conservation Tips
  - ERCOT Quick Facts

Air Conditioners
- Check your air conditioning ducts for any leaks and seal them with mastic tape if needed. Caulk and weather-strip doors, windows and pipe clearances to save as much as 10% on cooling costs.
- Check air conditioner filters every month and replace them every three months. Dirty filters make your system run and work harder.
- Have a licensed contractor inspect and maintain your air-conditioner in the spring or fall to make sure it is running efficiently.
- If your air conditioner is more than 15 years old, consider replacing it with a newer, more efficient model that can use up to 40% less energy than older models. Ensure any new unit is properly sized and correctly installed. Bigger is not always better.

ERCOT Quick Facts
- 85% of Texas electric load
- 40,530 circuit miles of high-voltage (138 kV/345 kV) transmission
- 550 generation units
- 73,600 MW peak capacity
- 68,379 MW record peak demand
- 335 billion kWh energy produced (2011)

Primary responsibilities (from Texas Legislature)
- System reliability (planning and operations)
- Open access to transmission
- Retail switching process for customer choice
- Wholesale market settlement for electricity production and delivery

Wind power leader
- 9,600 MW capacity (most in nation)
- 2,000 MW coastal wind power (on-peak availability)