

**TEXAS CITY ATTORNEYS  
ASSOCIATION**

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**A TEXAS NODAL  
MARKET:  
FUNNY NAME, SERIOUS  
PROBLEM**

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**“EXCUSE ME, CAN SOMEONE  
PLEASE TELL ME WHAT THIS GUY  
IS SPEAKING ABOUT?”**

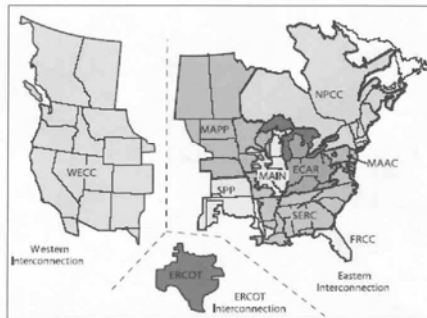
### **As A Reminder...**

- ☞ 1995-96 -- Texas legislation and FERC rules introduced competition at wholesale level
- ☞ September 1999 -- Retail competition law enacted
- ☞ 2001 -- Pilot project for retail competition
- ☞ January 2002 - Retail Competition within ERCOT
- ☞ Retail competition outside of ERCOT delayed

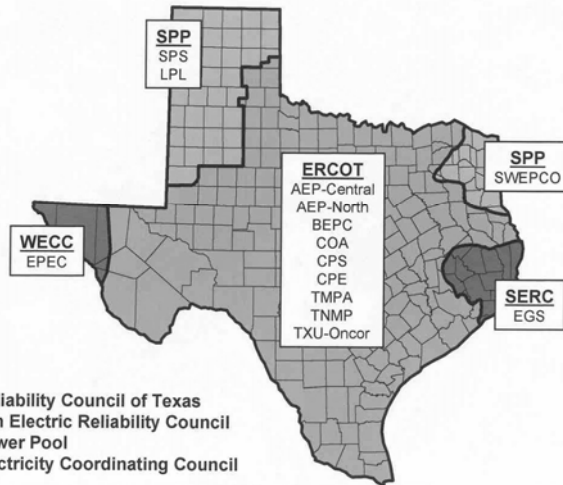
# “AND ERCOT IS?”

## ***ERCOT is One of 10 Electricity Reliability Regions Nationally***

- Founded in 1970, ERCOT is responsible for overseeing the reliable and safe transmission of electricity over Texas' main electricity power grid.
- ERCOT is one of 10 electricity reliability regions in North America operating under the reliability and safety standards set by the National Electricity Reliability Council (NERC).



## Texas Electric Area Map



## Current ERCOT Wholesale Market

## **Structure of Current Wholesale Market in ERCOT**

- ☞ **The real-time market is primarily bilateral**
  - Companies enter into contracts for power on mutually agreeable terms.
  - No liquid spot market.
- ☞ **Companies also submit “portfolio” bids to ERCOT for balancing energy service**
  - ERCOT uses balancing energy to balance supply and demand in real-time, and to relieve congestion on the transmission grid.
  - Bids are not required to be by individual generating unit.
  - ERCOT deploys balancing energy based on bids (lowest bids chosen first).

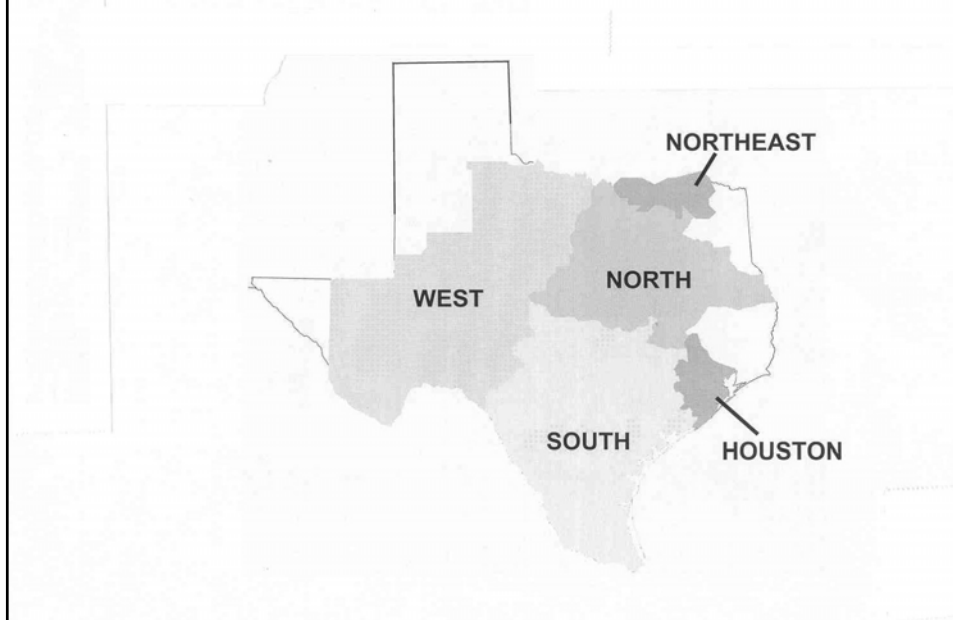
**“WHY SHOULD I CARE  
ABOUT ANY OF THIS?”**

## Congestion

- ☐ Congestion is a key issue in competitive markets, from design and oversight perspectives.
  - Congestion effectively creates smaller markets.

**BUT...  
WHAT IS CONGESTION?**

## 2004 ERCOT Congestion Zones



**“SO, WHAT IS THE CURE  
FOR CONGESTION?”**

## **CURRENT APPROACH: Zonal Congestion Management**

- The cost incurred by ERCOT to relieve congestion between zones is charged to those companies scheduling power between zones (direct assignment).
- The cost incurred to relieve congestion within zones is shared by all companies on the basis of their total load (uplift).

## **Why did ERCOT implement Zonal Congestion Management?**

- ☞ Presumed that major congestion would occur between the major zones.
  - ☞ Initially uplifted - significant costs in August 2001 led PUC to order direct assignment of those costs.
  - ☞ Direct assignment of costs encourages companies to manage transactions across congested lines.
- ☞ Congestion within zones was presumed to be minor.
  - ☞ Costs have been more significant than originally thought; local congestion cost \$170 million in 2002 and \$223 million in 2003.
  - ☞ To reduce local congestion costs, the PUC asked the market participants to develop direct assignment methodology that would work within the zonal market construct.
  - ☞ No local congestion solution was developed.

## The view of PUC Chairman Hudson: Problems with Current “Zonal” Market Design

- ☞ Wholesale Market is currently functioning well, but:
  - ☞ Significant congestion costs
  - ☞ Inefficient congestion management
  - ☞ Inadequate price signals
  - ☞ Opportunities for limited gaming by suppliers
  - ☞ No liquid spot market

## **Actions Taken by PUC:**

- ☞ PUC began a series of workshops designed to determine if changes in congestion management were necessary.
- ☞ PUC believes that current zonal model is not optimal.
- ☞ PUC in August 2003 adopted a rule that requires a nodal model for the wholesale market.
  - ☞ Based on the information gathered in these workshops.

**“THIS IS WHERE NODAL  
COMES IN, RIGHT?”**

## **Design Change**

- ⌚ Move from zonal to nodal market design
- ⌚ When?
  - ⌚ October 2006
- ⌚ How?
  - ⌚ Adopt approach used in or planned for other competitive markets (New England, New York, Mid-Atlantic, Midwest, and California).

## Congestion Management Design Change

- ☞ Nodal pricing for generators
  - ☞ Each power plant impacts transmission system differently.
  - ☞ Each plant should be a separate “node,” rather than lumping plants into “zones.”

## Texas Nodal

- ☞ **The new Texas nodal market is currently being designed by the Texas Nodal Team (TNT). TNT is a stakeholder process at ERCOT that will develop the details of the Texas nodal market**

- ☞ **Timeline:**

- ☞ **August 2003 - April 2004:** TNT meets and gathers stakeholder input for a detailed design process
- ☞ **May - October 2004:** TNT develops protocols to implement the new design and conducts an extensive cost-benefit analysis
- ☞ **November 2004 - April 2005:** PUC review
- ☞ **May 2005 - April 2006:** Software development
- ☞ **Jan. - Sept. 2006:** Market participant testing
- ☞ **Oct. 1, 2006:** Full implementation

## **Nodal In A Nutshell**

- ☞ Texas Nodal as Mandated by P26376 is an Attempt to Have the Market Regulate Itself instead of Being Regulated by PUC.
- ☞ Texas Nodal is an Effort to Shift Cost Responsibility in ERCOT for Transmission Related Issues.
- ☞ Nodal Market Designs Creates Need for PUC to Develop Market Mitigation Measures and Monitor Market for Abuse.
- ☞ Cost of Implementation can be Significant.

**Thank you!**