Managing Renewables in ERCOT –
or
What a Perfect Storm?

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North American Synchrophasor Initiative
Oncor Electric Delivery
Oncor at a Glance

Texas' largest regulated transmission and distribution utility - 6th largest in the U.S.

- No generation; no retail service
- Serves approximately 7.5 M people
- 401 cities and 91 counties
- 115,000 miles of T&D

* based on amounts paid in 2005-2008
ERCOT Market

- Competitive market since 2002
- T&D Delivery Regulated
- 100+ Retailers Active in Market
- Peak demand of 65,000 MW
- Renewable Portfolio Standard goals set in 2003; 9,000 MW of wind power currently online
In 2005, the Texas Legislature approved legislation directing the PUCT to establish a process to concurrently identify wind rich areas and the development of transmission to serve those areas. “Competitive Renewable Energy Zones” or CREZ was born. Also in 2005, the Legislature passed legislation encouraging the installation of Advanced Metering Systems (“AMS”) and authorizing the PUCT to establish a cost recovery mechanism.
CREZ Update

- The PUCT and ERCOT identified wind rich zones primarily in the West and Panhandle areas of Texas

- ERCOT led the development of transmission plans to integrate wind production facilities, up to 24 GW

- The PUCT selected a 18 GW plan, and selected eight companies to build more than 2,200 miles of new transmission lines

- Oncor’s portion entails more than 800 miles of these new lines

- Project will more than double Texas’ current wind capacity
Advanced Metering is Underway

- The PUCT developed rules specifying AMS functionality and established a surcharge for utilities to recover reasonable and necessary costs
- Oncor received approval to deploy 3.4 million advanced meters by the end of 2012
- 15-minute interval usage data
- Home Area Network (HAN) capability
- Remote connect/disconnect capability
- Common web portal
- Dedicated consumer education programs
Advanced Grid Technology will be required to manage large amounts of Renewable Generation

- FACTS and similar devices will play a prominent role
- Devices such as SVCs use advanced electronics and high speed controls to switch capacitors and reactors in response to system conditions
- Oncor’s first unit in operation June 2009 - largest and fastest SVC in operation in the world
- Second unit will be in service in 2010

Oncor Parkdale SVC Installation
ERCOT uniquely positioned to tie all the pieces together...

- 18,000 MW of wind power capacity by the end of 2013
- 7+ million smart meters 2013
- CREZ Build Out
- 40 million cars in DFW, San Antonio, Houston and Austin areas