



Advanced Metering/ Demand Response

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Integration

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Board of Directors Meeting
September 20, 2011

Agenda

1. Recap of Discussion Last Month

- Perspectives from PUCT, TDSP, REPs

2. ERCOT: Betty Day & Paul Wattles

- Strategic Discussion – SMT data repository
- Demand Response opportunities
- Load forecasting

3. AMIT Demand Response Workshop

Recap from last Month

- **PUCT highlighted current deployments, customer experience, data access, and what is next on the horizon for the AMIT team**
- **Champion Energy highlighted their pilot program, inhibitors for broad adoption, and what they are hoping to accomplish with their pilot**
- **TDUs highlighted the Smart Meter Texas (SMT) Portal, statistics around data availability, and the integration challenges they faced**

ERCOT Perspective

Strategic discussions – Betty Day

- **Energy Data Management Assessment & Recommendations**
 - Duplication of data today between ERCOT and SMT
 - ERCOT needs for Settlement
 - SMT needs for REP/Customer data transparency
 - Evaluate consolidation of the TDSP LSE file processes to ERCOT and SMT solution.
 - Evaluate separating out the data repository of SMT and the customer portal.
 - Who should manage the data repository?
 - Who should manage the customer portal?
 - Who should manage the API services?
- **Home Area Network (HAN)**
 - Wireless device that allows consumers to monitor/control device-level energy use within the home (HVAC, pool pump, water heater, etc) using the Smart Energy Profile standard
 - Do HAN services remain with SMT operations?

Demand Response Potential in ERCOT

- **FERC estimates >18 GW of DR potential in Texas by 2019**
 - Attributed to high peak demand; would represent 20-25% of ERCOT peak
 - ‘Full participation’ scenario assumes default dynamic pricing tariff

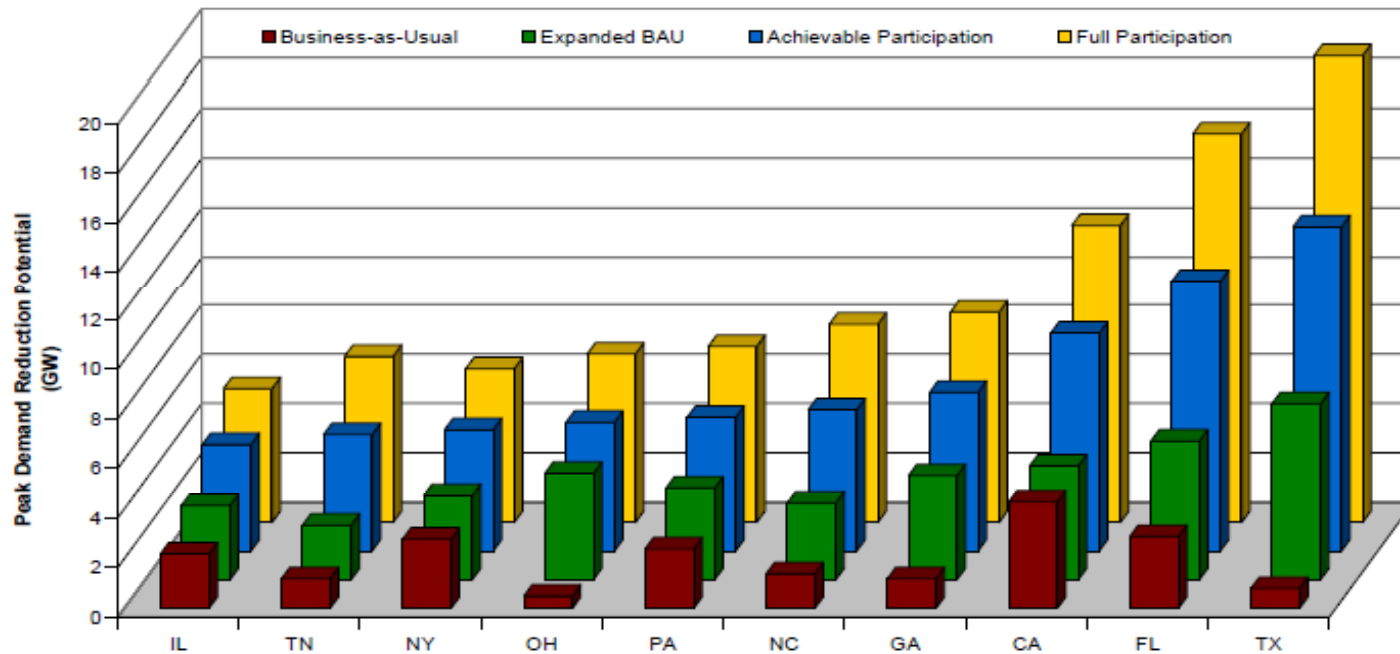
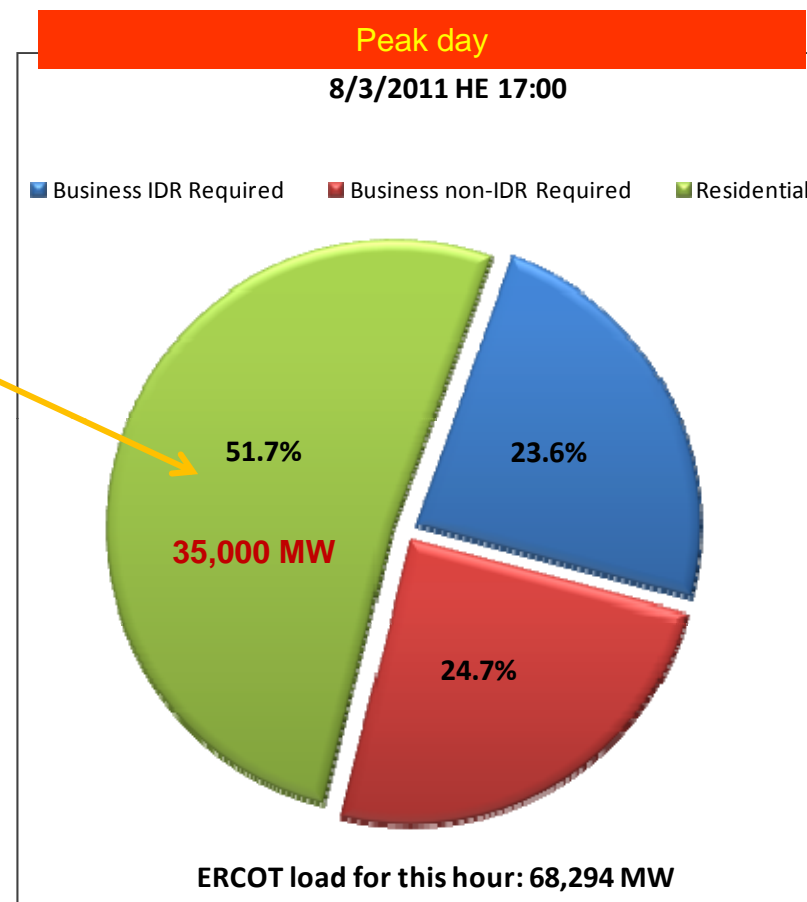
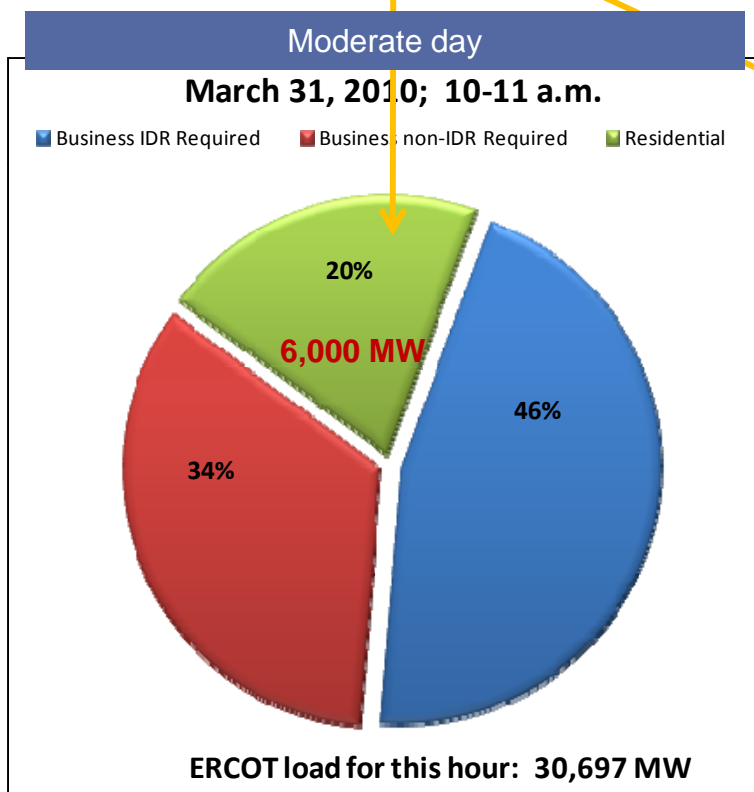


Figure 16: Top Ten States by Achievable Potential in 2019 (GW)

Source: FERC 2009 National Assessment of DR, page 42

Off-Peak vs. On-Peak Load by Customer Type

**29,000 MW of residential
summer peak load**



- Customer class breakdown is for competitive choice areas only; system-wide numbers are estimated using those counts as proxy for entire region
- IDR meters are required at >700kW

Demand Response – Paul Wattles

- **15-minute data and settlement should be a catalyst for expansion of DR opportunities for residential & small commercial customer aggregations**
- **DR/Load management enabled thru AMI/HAN or third-party products**
 - DR activated by customer, REP, third party, or automated
 - Price Responsive Demand
 - Critical peak pricing or other signals tied to real-time LMPs
- **ISO-administered DR products**
 - Represented in ERCOT markets by DR-enabled QSE
 - EILS today, potentially Ancillary Services in the future
- **AMI data will also assist ERCOT in Load forecasting**
 - More granular meter data will assist ERCOT planning activities via improved mid-term and long-term Load forecasting

- **Sponsored by AMIT and ERCOT Demand Side Working Group Aug. 30-31**
 - Over 200 participants in person and via Webex
- **Focus:**
 - Status reports on AMI deployment and ERCOT DR
 - AMI-related products and services currently available in the mass market
 - New products and technologies
 - Identifying barriers to growth for market-based DR for AMI-enabled customers
 - Roadmap and action plan for future activities

AMI DR Workshop: Recurring Themes

- **Support for mass market DR participation in SCED**
- **Limited duration of REP contracts poses risks for REP DR investments**
 - More activity in vertically integrated NOIEs compared to Competitive Choice areas
- **DR commonly requires a long term revenue stream to justify the investments**
 - Other markets create incentives for DR with forward capacity auctions
- **AMIT / SMT infrastructure not suitable for all types of DR**
 - Bandwidth limitations will require some programs to use additional and/or alternative communications/dispatch options (e.g., internet)
 - Some interoperability concerns associated with meters and vendor HAN devices

AMI DR Workshop: Next Steps

- **Issues identified were assigned to work groups (standing and ad-hoc)**
 - Each group to document issues in more detail and, where possible, make recommendations
- **Second workshop to convene in December to develop a report for PUC, ERCOT management and Stakeholders**
- **Documents and all presentations are posted to the ERCOT meeting page: <http://www.ercot.com/calendar/2011/08/20110830-DSWG>**

Questions?