

Advanced Metering Implementation in ERCOT

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Overview

1. Background
2. Deployment Status
3. Report to the Legislature
4. Advanced Metering Implementation Team (AMIT) Update



“...we must continue our commitment to conservation, energy efficiency and customer demand response. We are going to need every resource to meet the growing electricity needs of Texas.”

- Chairman Barry Smitherman



1. Texas Timeline

- **2005** Passage of HB 2129
- **2007** AMS Rulemaking
- **2007** Passage of HB 3693
- **2008** Implementation Project 34610
Ongoing Pilots & Meter
Deployment



1. Considerations

- A comprehensive set of meter functions are necessary to achieve the benefits listed in HB 2129.
- Full deployment of meters enables demand response.
 - *Customer participation in demand response is voluntary*
- Standardization among utilities in competitive areas is critical.
- *Benefits shall flow among the utility, REP and customer as a result of deployment.*



1. Underlying Principles

- AMI will help to “level the playing field” for Retail Electric Providers (REPs).
- AMI links the wholesale and retail markets, and will help them continue to mature.
- Greater price transparency as a result of AMI should drive prices down in the long run.
- Uncertainty over resources and variability in wholesale prices can be reduced by AMI due to more granular data availability enabling more accurate forecasting and settlement.

1. Policy in Texas



HB 2129 (79th R)

“In recognition that ...new metering and meter information technologies, have the potential to increase the reliability of the regional electrical network, encourage dynamic pricing and demand response, make better use of transmission and generation assets, and provide more choices for consumers, the legislature encourages the adoption of these technologies by electric utilities in this state.”



1. Policy in Texas

Passage of HB 2129

- Permits utilities to recover costs through a surcharge (ERCOT & non-ERCOT utilities)
 - Recover costs of deploying advanced meters to residential and non-residential customers (non-IDR)
- Requires reports from the Commission by September 30, every even numbered year
- By September 30, 2010, any recommendations for legislation the PUC may consider appropriate shall be included in the report



1. Policy in Texas

Passage of HB 3693 (80th R)

- **Expressed the intent of the legislature that net metering and “advanced meter data networks be deployed as rapidly as possible.”**

1. Advanced Metering Rule



- **Deployment of AMS is voluntary**
- **Includes provisions for:**
 - Standards-based technology requirements
 - Deployment plan requirements
 - Use of Pilot programs
 - Specific meter features
 - Data usage and access
 - Cost recovery mechanisms

1. Advanced Metering Rule



To meet requirements meters must:

- Support automated/remote meter reading
- Utilize 2-way communications
- Provide remote disconnect capabilities
- Conform to ANSI C12.22 (data transport)
- Support for 15 minute or less interval data reads
- On board storage the complies with C12.19
- Have a HAN technology using an open standard
- Be able to update the meter firmware

1. Utility Deployment Plan



Must include:

- Type of meter technology
- Type and description of communications equipment
- Systems to be developed during deployment period
- Timeline for web portal development
- Deployment schedule by specific area
- When monthly status reports will commence
- Schedule for deployment of web portal functionalities



1. Meter Data Access

- Currently, without AMS, most customers receive usage information *after the fact*
- The Rule requires that AMS provide direct, real-time access to usage data to the customer and the customer's REP
- Customers can access data several ways:
 - From the REP
 - From the Utility online web portal
 - From an in-home premise device

2. Deployment Status





2. Deployment Status

- **AEP**
 - 50,000 in 2009
- **TNMP**
 - Pilots in 2008
 - Testing of technology and options in its diverse service territory



2. Deployment Status



- **CenterPoint Energy**

- AMIN, Docket No. 35620

- 127,000 meters
 - REP funded
 - Approved by Commission August 29, 2008

- AMS, Docket No. 35639

- Full deployment, over 5 years
 - Approximately 2.1 million meters
 - Settlement of Case Filed December 2008



2. Deployment Status



- **Oncor Electric Delivery**
 - Docket No. 35718
 - Approved by Commission August 29, 2008
 - Docket No. 36157 – Status reports



3. PUCT Report to the Legislature



Project No. 35770 - Recommendations:

1. “The Governor’s Competitiveness Council in its Texas State Energy Plan recommended that the Commission have the authority to order utilities to deploy advanced meters. The legislature should clarify that the Commission has the authority to order utilities to deploy advanced meters, as rapidly as possible, with the appropriate cost recovery provided under the Commission’s advanced metering rule.”
2. “The legislature should clarify whether the 2005 legislation relating to advanced meters, PURA §39.107, applies to utilities outside of ERCOT.”



3. PUCT Report *cont.*

3. “State policy should also ensure that all retail customers have the option to have their billing determined on actual interval data captured from the advanced meters, so they receive the full benefits of changes in consumption behavior.”

4. “State policy should continue to recognize that the retail electric market will benefit from knowledgeable residential electric customers making informed purchasing decisions to meet their energy needs.”



3. PUCT Report *cont.*

- **Smart Grid**
 - ...“running today’s digital society through yesterday’s grid is like running the internet through an old telephone switchboard”. *Reid Detchon, Energy Future Coalition*
- **Need for Infrastructure**
 - The energy industry needs to prepare for a period of much higher capital expenditures.
 - CERA estimates that \$900 billion of direct infrastructure investment will be required by electric utilities over the next 15 years.

3. PUCT Report *cont.*



2007 Energy Independence and Security Act (EISA)

- Expands federal support for investments in smart grid technologies and addresses some of the regulatory and technological barriers to widespread installation.
- Title XIII is devoted entirely to the smart grid concept.
- Directs DOE to report to Congress on the deployment of smart grid technologies and any barriers for deployment, and conduct research on smart grid and assess the resulting energy savings and other aspects of implementation.

3. PUCT Report *cont.*



2007 Energy Independence and Security Act (EISA)

- Directs the National Institute of Standards and Technology to establish protocols and standards to increase the flexibility of use for smart grid equipment and systems and directs DOE to create a program that reimburses 20% of qualifying smart grid investments.
- Directs states to encourage utilities to employ smart grid technology and allows utilities to recover smart grid investments through rates.



4. Implementation

Six Projects:

Schedule:

1. Interim Project → Closed
2. Web Portal Project → Closed
3. ERCOT Settlement Project → Closed
4. Home Area Network (HAN) → Ongoing
5. Retail Interface Project → Closed
6. Customer Education → Closed



Questions?



More Information

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Advanced Metering Implementation Project

<http://www.puc.state.tx.us/electric/projects/34610/34610.cfm>

Advanced Metering Rulemaking Project Webpage

www.puc.state.tx.us/rules/rulemake/31418/31418.cfm

HB 2129

www.capitol.state.tx.us/BillLookup/Text.aspx?LegSess=79R&Bill=HB2129