



# **Advanced Meter Implementation and Status**

Senate Business and Commerce Committee

October 2, 2012



# Advanced Metering History

- 2005 – House Bill 2129
- 2006 – Rulemaking Project Opened
- 2006 – PUCT Report to Legislature #1
- 2007 – Rulemaking Adopted
- 2007 – Implementation Project Opened
- 2007 – House Bill 3693
- 2008 – PUCT Report to Legislature #2
- 2008 – Oncor Deployment Plan Approved
- 2008 – Centerpoint Deployment Plan Approved
- 2009 – AEP Deployment Plan Approved
- 2010 – Meter Accuracy Study Ordered/Completed
- 2010 – PUCT Report to Legislature #3
- 2011 – Texas New Mexico Power Deployment Plan Approved

*Note: PUCT has no authority over the advanced meter deployment of municipally owned utilities and electric cooperatives.*



# HB 2129 (2005)

- Amended PURA Section 39.107(h)
  - “The commission shall establish a nonbypassable surcharge for an electric utility... to use to recover reasonable and necessary costs incurred in deploying advanced metering and meter information networks to residential customers...”
  - “The commission shall ensure that the nonbypassable surcharge reflects a deployment of advanced meters that is no more than one-third of the utility’s total meters over each calendar year and shall ensure that the nonbypassable surcharge does not result in utility recovering more than its actual, fully allocated meter and meter information network costs.”



# HB 2129 (cont.)

- Section 8 of bill
  - (a) In recognition that advances in digital and communications equipment and technologies, including 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 generation assets and transmission and generation assets, and **provide more choices** for consumers, the **legislature encourages the adoption of these technologies** by electric utilities in this state.



# PUCT Rulemaking

- Workshop held 10/05
- December 2005 – Staff Request for Comments (19 sets received)
- August 2006 – Staff Strawman Rule (15 sets of comments received)
- October 2006 – Proposed Rule published in Texas Register for Comment (22 sets of comments received)
- Public Hearings/workshops held 2/07 and 3/07
- Commission discussion of rule at April 26, 2007, May 8, 2007, and May 10, 2007 Open Meetings with adoption on May 10, 2007.
- Major issues discussed
  - Cost recovery, data access, meter standards, functionality of meters, deployment plans



# House Bill 3693 (2007)

- Omnibus Energy Efficiency Bill
  - (i) ... it is the intent of the legislature that net metering and advanced meter information networks be ***deployed as rapidly as possible*** to allow ***customers to better manage energy use and control costs, and to facilitate demand response initiatives.***



# PUCT Reports to Legislature

- 2007 Report
  - No barriers to deployment identified
  - No recommendations
- 2009 Report
  - PUC sought clarification to determine if legislature wanted PUC to order utilities to deploy as fast as possible and whether 2005 law applied to utilities outside of ERCOT
  - PUC sought clarity on whether state policy should give all customers the right to be billed on interval data and of importance of well-informed consumers
  - No action on recommendations
- 2011 Report
  - No Barriers to Implementation Identified
  - PUC sought clarification as to whether the 2005 legislation applies to utilities outside of ERCOT.
  - No action on recommendations



# Consumer Benefits Identified

- Operational efficiencies
  - Utilities are now aware of outages in advance of consumers notifying them.
  - Greater public awareness of outages and restoration times.
  - Reduced expenses (credited against costs in surcharge cases)
- Consumer choices
  - Increasing number of retail products that are only possible with advanced metering:
    - time of use pricing, bill credits for reducing consumption during grid emergencies, pre-paid offerings, etc.
  - Market rules have been adapted around meters to reduce time to switch providers, reconnect service, etc.





# Deployments

	<b>CenterPoint</b>	<b>Oncor</b>	<b>AEP TCC*</b>	<b>AEP TNC**</b>	<b>TNMP</b>
Installation to Date	2 Million	3,022,347	479,080	139,079	57,807
Total # Meters at Full Deployment	2 Million Complete	3 Million End of 2012	809,000 End of 2013	193,000 End of 2013	200,000 End of 2016
Total Estimated Savings***	\$120.6 Million	\$176.0 Million	\$89.2 Million	\$32.6 Million	\$19.3 Million
Estimated Customer Education Expense	\$5.6 Million	\$15.1 Million	\$4.0 Million	\$1.0 Million	\$1.95 Million
Monthly Residential Surcharge Amount <i>Reflects savings above</i>	\$3.05	\$2.19	\$2.26	\$2.35	\$3.40
Total # of Installations on Hold	39	200	460 (combined)		300

\* AEP TCC residential surcharge is \$3.15 during the first two years, \$2.89 during the next two years, and \$2.26 for the remainder of the surcharge period.

\*\* AEP TNC Residential surcharge is \$3.15 for the first two years, \$2.27 during the next two years, and \$2.35 for the remainder of the surcharge period.

\*\*\* Savings is rolled into the surcharge calculation



# Meter Accuracy Study

- During early stages of Oncor's deployment, the Commission saw a large increase in consumer complaints related to meter/accuracy.
- PUCT engaged Navigant to evaluate the deployments and meter accuracy complaints.
  - Navigant found the advanced meters were more accurate than the older, electromechanical meters
  - Metering issues related to extremely cold weather compared to prior year in areas with electric heating
  - Some issues with the final meter read of the old meter that led to inaccurate billing



# Health Concerns

- Was not raised during rulemaking and deployment projects
- Radio frequencies emitted by advanced meters are generally well below limits set by the Federal Communications Commission
  - Since 1996, the FCC has required all communications devices to meet minimum guidelines for safe human exposure to RF
  - Vendors selling products that do not meet FCC specs are subject to fines and penalties
  - EPA, FDA, National Institute for Occupational Safety and Health, and OSHA monitor and regulate various aspects of RF safety

The acceptable FCC RF limits are  $6.1 \text{ W/m}^2$  and  $10 \text{ W/m}^2$  depending on frequency for continuous whole body exposure.

	<b>Cellular Telephone:</b> $7.8 \text{ W/m}^2$ at 2" for 1-20 minutes*
	<b>Bluetooth USB dongles:</b> $0.042 \text{ W/m}^2$ at 4" for < 1 minute*
	<b>Baby Monitor:</b> $0.029 \text{ W/m}^2$ at 3'3" for 8 hours*
	<b>Cordless Phone Base:</b> $0.0052 \text{ W/m}^2$ at 3'3" for 1-30 mins*
	<b>Microwave Ovens:</b> $0.0043 \text{ W/m}^2$ at 3'3" for 1-10 mins*
	<b>WiFi Base Station:</b> $0.0021 \text{ W/m}^2$ at 3'3" for 10-60 mins.*
	<b>Smart Meter:</b> $0.0018 \text{ W/m}^2$ at 10' for 1-2 seconds*

\*As illustrated, power density is measured in Watts per square meter ( $\text{W/m}^2$ ). The distances shown are for typical exposures.



# Current Commission Activity

- Project Number 40190: Advanced Metering Issues
  - Opened in response to concerns about deployment/requests for opt-out
  - Questions/data gathering from utilities on impacts of opt-out
    - Cost, accuracy, outage management, market rules, etc.
  - Public meeting held by Commissioners on August 21, 2012
  - In response to health concerns, Commission staff conducting review of all existing reports and studies on RF and EMF exposure



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# Advanced Meter Implementation and Status

## Questions?

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