

TESTIMONY OF
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BEFORE THE
HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION
UNITED STATES HOUSE OF REPRESENTATIVES

**“EMPOWERING CONSUMERS AND
PROMOTING INNOVATION THROUGH THE SMART GRID”**

September 8, 2011

Introduction

Chairman Quayle and Members of the Subcommittee, I am Donna Nelson, Chairman of the Public Utility Commission of Texas (Texas PUC). Thank you for the opportunity to appear before you today to discuss the progress we have made in Texas regarding the adoption and implementation of a smart grid. I would like to highlight several things that I believe have made Texas a leader in deploying smart grid technology and in delivering the benefits of that technology to consumers.

To tell the story of the Smart Grid in Texas is to tell the story of the competitive electricity market in ERCOT. The Electric Reliability Council of Texas (ERCOT) region is located entirely within the state of Texas and includes approximately 75% of the state's geographic area, 85% of the electric load, and 22 million consumers. The Texas legislature restructured the electric industry in the ERCOT region in 1999. As a result of that restructuring, Retail Electric Providers (REPs) provide electric service to consumers at prices that are not regulated by the Texas PUC, while the Texas PUC continues to regulate the rates of transmission and distribution utilities (TDUs) pursuant to traditional rate of return regulation.

The competitive model has served Texas well. Today, prices in the competitive areas are lower for consumers than they were in 2001 before the competitive market opened. Consumers can shop from a myriad of product including prepaid service, time of use pricing, fixed and variable pricing, and renewable energy. The Texas PUC oversees a website at PowerToChoose.com that allows consumers to shop for electric service from among hundreds of product offerings. The competitive ERCOT market has also spurred the investment of \$36.5 billion in new generation, and Texas leads the nation in installed wind generation capacity.

Smart Grid Initiatives

State legislation has encouraged the implementation of advanced metering by directing the Texas PUC to establish a cost recovery mechanism for utilities that deploy smart meters and related networks. The Texas PUC adopted a rule in May 2007 related to smart meter deployment.¹ The

¹ See PUC SUBST. R. §25.130, available online at: <http://www.puc.state.tx.us/rules/subrules/electric/25.130/25.130ei.cfm>

rule addressed customer and REP access to data, minimum standards for advanced metering systems (AMS) deployed, cost recovery, and utility deployment plans. Four utilities in ERCOT (CenterPoint Energy, Oncor Electric Delivery, American Electric Power-Texas and Texas New Mexico Power) have received approval for the deployment of smart meters in their service territories. Those utilities have presently deployed approximately four million advanced meters and are scheduled to deploy a total of approximately seven million by the end of 2013. The Texas PUC has approved over \$2 billion dollars in Smart Grid investment in the ERCOT region.

CenterPoint Energy was awarded a \$200 million stimulus grant from the DOE. CenterPoint Energy will use \$150 million of this grant to accelerate the deployment of 2.2 million smart meters that were originally scheduled for completion in 2014 and are now scheduled to be completed by mid-2012. CenterPoint Energy is using the remaining \$50 million to fund an Intelligent Grid initiative, which will automate 15% of CenterPoint Energy's service territory with advanced distribution management capabilities. This will include a "self-healing" system that will automatically identify outages, isolate faulted sections, re-route power, and improve overall reliability performance. This has also enabled CenterPoint Energy to provide proactive alerts to customers via email, text message, and phone for issues such as outages and storm preparation. CenterPoint Energy has created or retained 550 jobs as a result of the DOE grant.

By the end of 2013, Texas will have nearly seven million smart meters installed within the ERCOT region. In its smart meter rulemaking, the Texas PUC mandated a robust set of functionality – and did not mandate technology. These meters are home area network (HAN) enabled, record and transmit data in 15-minute increments, and are required to adhere to open standards. Energy management devices that are connected to the meter and the utility system are also being provided to customers on a voluntary basis.

The installation of smart meters and the associated systems are a core component of the smart grid. Meters with a robust set of functionality are the building block to achieving significant improvements in customer service and lower costs. To fully realize the benefits of this technology, providers and their customers need access to information that shows how much electricity the customers use and when they use it. In approving utility deployment plans, the

Texas PUC authorized the development of a web site that makes smart meter information available to customers, REPs, and other energy service providers. This web site, SmartMeterTexas.com, enables customers with a smart meter installed in any of the four utility territories to go to one location and view their electricity usage on a 15-minute basis. This website is also compliant with the American Disabilities Act.

One of the major challenges with implementing the smart grid is that the realization of benefits does not occur overnight. The smart grid, comprised of a “system of systems,” takes years. In Texas, we recognized that realization of the benefits will require revisions to the existing framework – including market processes, utility and REP systems, retail and wholesale systems at the ERCOT ISO, and Texas PUC rules.

I would like to touch on a few key components that we believe have allowed for faster adoption and realization of benefits of this technology. First, a progressive state policy led by the legislature has encouraged deployment, not mandated it. Second, the statute explicitly states that customers own their smart meter data and are in control of authorizing access to an entity other than their REP. This has ensured that customers have access to their smart meter information – allowing them to have more choice and control. Customers can also access their data on a real-time basis with a device installed inside their home. Third, the Texas PUC has overseen an implementation initiative in order to make the smart grid a reality. The initiative is comprised of a stakeholder collaborative with representatives from utilities, vendors, REPs and consumers. This stakeholder process has addressed issues relating to customer privacy, changes in wholesale and retail markets, customer protection rules, access to data, changes to utility systems, the development of the SmartMeterTexas.com web site, and the requirements for the home area network. The work resulting from this process has allowed REPs and other energy service providers to take advantage of the new functionality from the utility systems – thereby developing products for customers at a faster pace. And, finally, REPs strongly supported the roll out of smart grid technology, because, in a highly competitive retail market, they wanted to have a competitive advantage over other REPs.

Retail products with features including usage comparisons, smart phone apps, online web tools and analysis, and other innovative services all are leveraging the ongoing smart grid investment. Further supporting the development of new choices for consumers includes an initiative by Reliant Energy. Reliant Energy received a \$20 million stimulus grant from the DOE. More than 250,000 customers are benefitting from at least one Smart Energy product or service, such as those listed above, that Reliant offers. Reliant will enroll 500,000 consumers on Smart Energy Products and Services by March of 2013.

National Standards Effort

The Smart Grid is an emergent technological ecosystem that offers many possibilities to many different stakeholders. Participation in developing standards is paramount to: defining interoperable requirements connecting the different software components and technologies comprising the Smart Grid; ensuring reliability, safety, security and privacy are adequately addressed; assisting in optimizing value and avoiding limiting Smart Grid potential; assisting in defining reasonable and necessary component performance characteristics comprising the Smart Grid; assisting in defining common ground for interaction between new groups of stakeholders participating in the Smart Grid; and providing the opportunity for educating participants in developing and supplying components for building and/or operating the Smart Grid.

The creation of open, national standards can create a level playing field across industry sectors and the market. In the long term, standards should ensure interoperability of devices across utility service territories and across the country. This national set of standards should recognize and encourage an ecosystem of existing and evolving standards. A balance must be struck between existing standards that enable deployment and allow for benefits to reach consumers today, while working to refine and create future standards to address the Smart Grid of tomorrow. This process should result in the creation of a national set of standards that can provide direction for utilities, industry and market participants.

State commissions maintain jurisdiction over the distribution grid and have the ultimate responsibility for adoption and enforcement of rules relating to utilities and the retail markets, including the functions and operations of electronic equipment that is a part of the distribution

network or metering infrastructure. It is important that the processes at NIST and at the FERC continue to recognize the important role of state commissions. The Smart Grid Interoperability Panel (SGIP) has provided an excellent forum for those presenting different views to meet and develop common standards and recommendations sufficiently broad to define Smart Grid.

The development of standards is the subject of much discussion at all levels of government. Standards are not static but are constantly evolving. Once a standard is adopted, there are revisions to improve the standard based on real world applications. While some have advocated for a federal package of mandatory standards for adoption, we do not believe that the federal government should take action to mandate standards. If we settled on standards when the internet was first created – the internet likely would not have evolved to where it is today.

Conclusion

Many residential energy customers are technically savvy. Use of the internet, smart phones and smart technology is increasing. As a result, an interest in products such as pay-as-you-go, time of use rates, and access to information is growing. Policy makers must recognize that it is vital that consumers have the ability to understand their energy usage and costs. While the traditional utility model provides this information thirty days after the fact, the smart grid, if implemented properly, will make this information available to consumers on the next day or the same day, depending on the technology.

Regardless of whether a state has restructured its electricity industry, there are many benefits to be realized from the Smart Grid. Customers require more information about their energy bills. Experience continues to show that customers will take advantage of this information. Policy at the federal and state level should continue to recognize the need for customer choice and control, and provide guidelines for the smart grid, not mandates.

Thank you for the opportunity to testify today and share the Texas experience.