

Testimony of Cheryl Mele

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“Powering America: A Review of the Operation and Effectiveness of the
Nation’s Wholesale Electricity Markets”

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Summary of Statement

- ERCOT is the only non-Federal Energy Regulatory Commission (FERC) jurisdictional power market in the continental United States. We are subject to reliability and security standards set by the North American Electric Reliability Corporation (NERC). Maintaining this regulatory structure is vital and will continue to bring the benefits of a reliable grid and vibrant market at a low cost to the consumers of Texas.
- We manage the flow of electric power to 24 million Texas customers — representing about 90 percent of the state’s electric load. ERCOT is a membership-based 501(c)(4) nonprofit corporation, governed by a board of directors and subject to oversight by the Public Utility Commission of Texas and the Texas Legislature.
- Contrary to a national trend, we project an annual average of 1.5 percent load growth over the next five years. Meanwhile, overall energy use in ERCOT has grown by an average of about 2 percent annually in recent years.
- ERCOT’s generation fleet features a diverse fuel mix, including more wind generation than any other state. In 2016, energy use in ERCOT was predominantly natural gas at 43.7 percent, followed by coal at 28.8 percent, wind at 15.1 percent, and nuclear at 12 percent.
- ERCOT has an energy-only market. With limited exceptions, owners of generation resources are paid only for the electricity they put onto the grid. While a number of enhancements have been made to the ERCOT market since it launched, the core “energy-only” principles have not changed.
- We continue to discuss with stakeholders and regulators the appropriate role for the ERCOT market and operations in accommodating newer technologies that have different characteristics — whether they are storage, renewable, flexible thermal units, or distributed generation.
- We remain committed to external collaborations with relevant government agencies, the industry, and national labs to enhance everyone’s security posture.

Chairman Upton, Vice Chairman Olson, Ranking Member Rush, and members of the Subcommittee, thank you for the opportunity to address you on the operation and effectiveness of the nation's wholesale electricity markets. My name is Cheryl Mele, and I am the Senior Vice President and Chief Operating Officer for the Electric Reliability Council of Texas, Inc. (ERCOT). ERCOT is the independent system operator (ISO) for the ERCOT Interconnection, which encompasses approximately 90% of electric load in Texas. As a region, ERCOT covers most, but not all, of Texas, with portions of the Texas Panhandle, Far West Texas, and the eastern edge of the state in the other interconnections. We are the only non-Federal Energy Regulatory Commission (FERC) jurisdictional power market in the continental United States. Maintaining this regulatory structure is key to fostering reliability and our unique market at a low cost to the consumer.

ERCOT manages the flow of electric power to 24 million Texas customers and schedules power on an electric grid that connects more than 46,500 miles of transmission lines and more than 570 generation units. We also perform financial settlement for the competitive wholesale bulk-power market and administer retail switching for 7 million premises in competitive choice areas. Smart meters are ubiquitous in ERCOT and support customer choice, new technologies, and reliability.

Starting in the mid-1990s, the Texas Legislature and the Public Utility Commission of Texas restructured the ERCOT electricity system to create the competitive wholesale and retail markets that exist today. While we operate as the only non-Federal Energy Regulatory Commission (FERC) jurisdictional power market in the continental United States, ERCOT is subject to reliability and security standards set by the North American Electric Reliability

Corporation (NERC). Our highly engaged state and federal leadership, regulators, board, market participants, and a diverse group of expert employees have been the keys to ERCOT's successes. We believe maintaining our current regulatory structure, relationships, and partnerships will continue to bring the benefits of a reliable grid and vibrant market at a low cost to the consumers of Texas.

ERCOT continues to project an annual average of 1.5 percent load growth over the next five years. Meanwhile, overall energy use in the ERCOT region has grown by an average of about 2 percent annually in recent years. Texas' strong economy, vigorous population growth, and a significant industrial base are all contributing factors to this growth. While the hot summers continue to drive up peak demand in our growing region, a winter peak demand record of 59,650 (MWs) was set this past January, and an overall peak demand record of 71,110 (MWs) occurred in August of 2016.

ERCOT's fuel mix is also distinctive. While it has evolved over time, the region's energy use in 2016 was predominantly natural gas at 43.7 percent, followed by coal at 28.8 percent, wind at 15.1 percent, and nuclear at 12 percent. With the completion of the Competitive Renewable Energy Zone, or CREZ, transmission projects in 2014, wind generation has been able to set significant new records, topping out most recently at 16,141 MWs of output on March 31, 2017. Wind generation served 50% of total load of 28,780 MWs at one point on March 23, 2017. As we integrate these and other emerging and evolving technologies, fuel diversity will continue to be a main component in keeping our system reliable as well as flexible.

In a growing system with a diverse fuel mix, transmission planning remains a key component in maintaining a reliable system, as well as an efficient market that is responsive to consumers. The CREZ projects mentioned above began as a Texas legislative initiative and moved quickly through administrative processes and construction. We field questions and host visitors from all over the world who seek to understand and learn from that alignment of leadership and process to determine whether it can be replicated in their respective systems.

We continue to have active discussions with regulators and stakeholders about the appropriate parameters for transmission planning in the future — bringing more granular information related to economics, consumer location and behaviors, and distributed resources to bear on policy questions. This information is increasingly important as we work to ensure reliability on a changing grid while managing the shared consumer costs associated with this important infrastructure.

As you have heard in previous hearings, ERCOT has a distinctive market design. With limited exceptions, owners of generation resources in our energy-only market are paid only for the electricity they put onto the grid. While ERCOT has made a number of enhancements to its market since it launched, the core principles have not changed. ERCOT is an “energy-only” market in which both power plant operations and investment decisions are driven primarily by energy price signals.

With natural gas playing such a large role in our generation fuel mix, the commodity price of natural gas is the primary driver of power prices within ERCOT. Within the context of consistently low gas prices and ample reserve margins, the average wholesale price of power in ERCOT has been very low in recent years.

We recognize these low prices affect generation owners' revenues, and we are always attuned to the reality and possibility of generation unit retirements, which would affect our reserve margin outlook. ERCOT's future outlook continues to show sufficient reserve margins to support system reliability. Our most recent Capacity, Demand and Reserves (CDR) report, which we produce twice every year, shows planning reserve margins well above 16 percent for the next five years and exceeding 18 percent for four of those years.

Our CDR also shows that we continue to integrate a very large amount of wind on our system and are seeing significant interest in building utility-scale solar. The ERCOT market, reduced costs, and federal incentives are helping drive continued growth of renewables. The state's renewable portfolio standard was met long ago.

We observe challenges with cost of new entry and the pressures on existing thermal and nuclear units in a context of low energy prices. We also have seen that, for several years, investors and unit owners of every type of generation were watching to see if there would be federal environmental policies that would materially affect their investments or retirement strategies. That conversation has since changed. Nevertheless, aside from regulatory concerns, ongoing changes in the generation resource mix and market dynamics may have major impacts on potential unit retirement decisions.

ERCOT has processes in place to address concerns that may arise when a unit's retirement impacts transmission system reliability. Rather than rely only on those types of out-of-market processes, ERCOT works with the Texas PUC and stakeholders to align market design with the realities of managing a changing grid.

We continue to discuss with stakeholders and regulators the appropriate role for the ERCOT market and operations in accommodating newer technologies that have different characteristics — whether they are storage, renewables, flexible thermal units, or distributed generation.

While this is not strictly a market issue, we also are focused, as you are, on security issues. ERCOT maintains a dedicated and integrated cyber/physical security organization and an established strategy for prevention of security breaches— and for response and resilience if they occur. We prepare our employees to respond to a disruption of the system for any kind of emergency, and employ layered cyber and physical security architectures, known as a defense-in-depth strategy, along with careful monitoring. Cyber-threats are fast moving and increasingly sophisticated. Because of these characteristics, information sharing is key in assessment and response. ERCOT's grid security collaborators include the Electricity Subsector Coordinating Council (ESCC), Electricity Information Sharing and Analysis Center (E-ISAC), federal and state law enforcement agencies, as well as NERC in developing standards. In addressing these modern and ever-evolving threats, ERCOT remains committed to external collaboration with relevant government agencies, the industry, and national labs to enhance its and the industry's security posture.

Although there is a significant amount of data we — and all independent system operators — must protect, either for security or competitive reasons, we also are committed to data transparency. We manage a vast repository of information that is helpful to market participants, investors, researchers, and consumers in their ongoing electricity-related decisions.

ERCOT creates and posts more than 100,000 data products per day, and these are consumed at a rate of more than 25 million downloads per month. Meanwhile, real-time wholesale prices, grid conditions and a plethora of other information is readily accessible for online viewing.

Like all the independent system operators, reliability is our primary measure of performance. We have successfully changed our operations and market rules to reflect a changing grid, and will continue to work with stakeholders as technologies evolve and issues emerge. Through innovation, our staff and stakeholders have an enormous opportunity to solve new and challenging problems today and for the future.

Conclusion

In conclusion, with healthy reserves and low prices in ERCOT's energy-only market, continuing with the current, predictable regulatory structure is important. This allows us to be responsive to all our regulators, as well as the consumer, as we continue to investigate input and tools needed to further our collaborative efforts and address future challenges and opportunities in the ERCOT region. Thank you for your time today and the opportunity to appear before you. We would be more than happy to host a tour of our facilities and briefing any time you may come to Texas. I would be happy to answer any questions.