



July 14, 2017

TO: Members, Subcommittee on Energy

FROM: Committee Majority and Minority Staff

RE: Hearing entitled “Powering America: Examining the State of the Electric Industry through Market Participant Perspectives.”

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## I. INTRODUCTION

The Subcommittee on Energy will hold a hearing on Tuesday, July 18, 2017, at 10:00 a.m. in 2123 Rayburn House Office Building. The hearing is entitled “Powering America: Examining the State of the Electric Industry through Market Participant Perspectives.” The hearing will solicit the views of industry stakeholders regarding current issues and developments across the electricity sector.

## II. WITNESSES

- **Joseph T. Kelliher**, Executive Vice President, Federal Regulatory Affairs, NextEra Energy, Inc.
- **Lisa G. McAlister**, Senior Vice President and General Counsel for Regulatory Affairs, American Municipal Power, Inc.
- **Steven Schleimer**, Senior Vice President of Government & Regulatory Affairs, Calpine
- **Jackson E. Reasor**, Chief Executive Officer, Old Dominion Electric Cooperative
- **Tamara Linde**, Executive Vice President and General Counsel, Public Service Enterprise Group, Inc.
- **Kenneth D. Schisler**, Vice President of Regulatory and Government Affairs, EnerNOC
- **R. Alexander Glenn**, Senior Vice President of State and Federal Regulatory Legal Support, Duke Energy

## III. BACKGROUND

The nation’s electricity sector is undergoing a period of transformation, requiring public utilities, market participants, regulators, and ratepayers to respond and adjust to the changes affecting our electric grid. Economic, environmental, and public policy considerations have become the focus of analysis and debate as industry stakeholders navigate the complexities of

maintaining adequate investment in generation and transmission infrastructure while also balancing the need for reliable electric service at just and reasonable rates. In regions of the country where organized wholesale electricity markets operate, discussions are focused on whether competitive markets can deliver low-cost power while also accommodating state policies that are not easily integrated into the market construct. In non-restructured markets, concerns regarding whether ratepayers should be responsible for excessive cost overruns and the overbuilding of generation are the focus of debate.

A variety of conditions and developments are affecting the current and future state of the nation's electric industry. Traditional fuels for electricity generation such as coal and nuclear power have faced increased competition from both less expensive and lower-emitting generation sources, as well as from demand response resources.<sup>1</sup> Access to plentiful supplies of inexpensive natural gas has resulted in a significant increase in the development and deployment of natural gas-fired generation. Additionally, renewable sources of energy, including utility-scale wind and solar resources, have continued to expand and become more competitive in the electricity markets. Advances in technology and innovation are also having an impact on grid operations by increasing efficiencies.

#### **A. Grid Reliability**

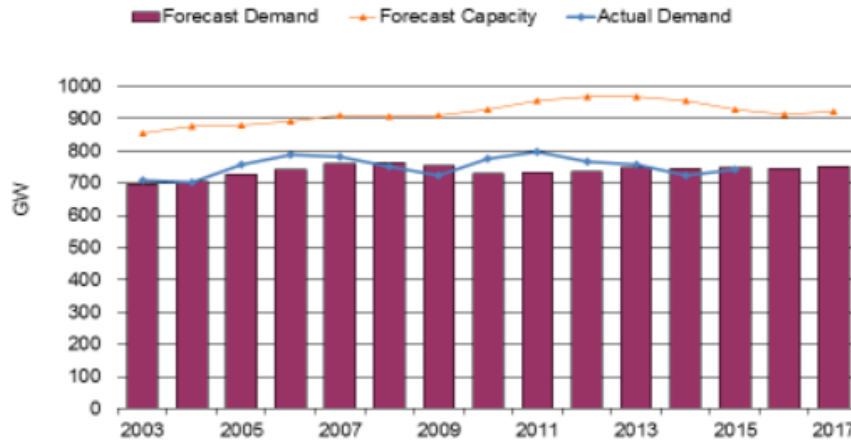
Maintaining an efficient and reliable grid is a national priority. This major responsibility is shared by many, including the North American Electric Reliability Corporation (NERC), NERC's eight Regional Entities, the Federal Energy Regulatory Commission (FERC), regional grid operators, balancing authorities and others. In addition to developing mandatory standards to ensure reliable day-to-day operations of the grid, the industry must continuously plan and work to address emerging issues, including threats to physical security and cybersecurity.

Among its core responsibilities, NERC reviews reserve margins (*i.e.*, an amount of additional generating capacity) across the country to ensure adequate supplies during times of peak demand or in response to events causing a loss of load. As the grid continues to modernize, it is important to proactively incorporate reliability principles<sup>2</sup> into both resource planning and new infrastructure investment. Accurate load forecasting also plays an increasing role as Americans begin to use more electricity from non-traditional resources, particularly electricity from intermittent renewable sources. The chart below shows forecasted and actual demand in the U.S., as well as forecasted generator capacity.

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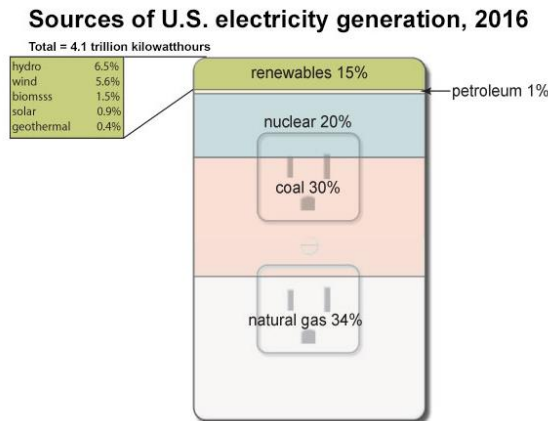
<sup>1</sup> Demand response programs are used by electric utilities and grid operators as a resource to balance supply and demand by inducing lower electricity use at times of high prices or when system reliability is jeopardized.

<sup>2</sup> See [http://www.nerc.com/files/Reliability\\_Principles.pdf](http://www.nerc.com/files/Reliability_Principles.pdf)



Source: FERC Summer Energy Market and Reliability Assessment (June 2017).

In 2016, renewable additions to the nation’s generating capacity represented the majority (63%) of utility-scale additions, primarily from wind and solar resources.<sup>3</sup> While renewable resources only represent approximately 15 percent of the existing generator fleet (*see* graphic below), they are projected to continue to grow. In turn, as renewables like wind and solar generate a larger share of the nation’s electricity, their intermittent nature will require precise monitoring to ensure both resource availability and grid reliability. The graphic below illustrates the percentage of U.S. electricity generation in 2016 by fuel source.



Source: EIA. Preliminary 2016 data for utility-scale facilities.

According to a recent assessment released by NERC, the overall reliability of the nation’s bulk power system has continued to improve, and the grid was better able to operate through high-stress days in 2016 than in prior years.<sup>4</sup> Notwithstanding these positive developments, stakeholders in the electricity industry recognize that risks to reliability will continue to exist and that additional analyses will be conducted, and recommendations considered, to identify areas for improvement.

<sup>3</sup> Energy Information Administration (EIA), *Electric Generators Report*.

<sup>4</sup> “State of Reliability 2017”, NERC, June 15, 2017 at 13.

## **B. Fuel Diversity and Generator Attributes**

As natural gas prices hit 20-year record lows in 2016, and remain low today, nuclear and coal-fired plants continue to face challenges in remaining economically competitive in electricity markets that dispatch resources based on lowest-cost.<sup>5</sup> Not surprisingly, plants unable to earn sufficient revenues to cover their costs have exited the markets in recent years.<sup>6</sup> Last year, approximately 10 GW of coal-fired capacity retired, along with 478 MW of nuclear capacity from the Ft. Calhoun power station in Nebraska.<sup>7</sup> Additional retirements of coal and nuclear plants are expected in the near future.

Maintaining a diverse generator fleet allows grid operators to select from a wide array of services and flexibilities based on the attributes of the resource. For instance, while coal and nuclear plants have onsite fuel and can operate continuously for days, they typically are not able to start up quickly or to turn on and off multiple times in a day. Solar and wind resources, on the other hand, can start quickly and turn on/off throughout the day. In contrast, neither coal, nuclear, wind, nor solar resources can typically provide “blackstart” services that allow grid operators to restore operations after a disruption. However, both hydroelectric and natural gas-fired resources have attributes that allow them to provide these essential restoration services.<sup>8</sup>

As the diversity of the generator fleet continues to change, whether due to regulatory, technological, or economic forces, the attributes of the remaining resources must be reviewed to ensure reliability of the grid. Thus, the ongoing retirement of coal and nuclear generators will necessitate an examination of the effects of losing these traditional resources and a close review of the resources that will replace this lost capacity.

## **C. Integrating State Public Policies in Organized Electricity Markets**

As the markets and fuel mix change, grid operators and electric utilities are addressing efforts by state legislatures and utility commissions to pursue specific public policies. Recent state legislative efforts have been specifically designed to reduce emissions, save jobs, and maintain grid reliability. Although states have the authority to influence the diversity of their generating fleet, the federal government (through FERC) maintains exclusive jurisdiction over the operations of the six organized wholesale electricity markets.<sup>9</sup> However, FERC does not have the authority to mandate that a certain amount of power be generated by particular resources. In response to various legislative efforts to support nuclear generation, legal challenges have been filed and the industry is debating whether individual state actions are harming the efficient operation of the organized wholesale electricity markets.

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<sup>5</sup> Additionally, distributed energy resources, which are energy supplies and power sources that are smaller in scale than utility-scale resources (and located closer to demand centers), present additional market competition. As these smaller resources begin to aggregate on the distribution-side of the grid, there will be corresponding impacts on the wholesale-side. This topic will be explored in more depth at a future hearing.

<sup>6</sup> “2016 State of the Markets Report”, *FERC*, April 13, 2017 at 20.

<sup>7</sup> *Id.*

<sup>8</sup> “PJM’s Evolving Resource Mix and System Reliability”, *PJM Interconnection*, March 30, 2017 at 16.

<sup>9</sup> The Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) include the PJM Interconnection, New York ISO, Midcontinent ISO, ISO-New England, California ISO, and Southwest Power Pool.

Litigation is currently pending before various federal district courts, and the issue of state subsidies for generators has recently been addressed by the Supreme Court in *Hughes v. Talen*.<sup>10</sup> Most recently, in 2016-2017, states (including New York, Illinois, Ohio, and Connecticut) have either enacted or proposed legislation that would protect “at-risk” nuclear generation units from closure due to their inability to compete economically in a competitive RTO/ISO market.<sup>11</sup> These states have supported struggling nuclear generators by providing a credit or subsidy to supplement revenues the generator receives in the electricity markets. The states claim the payments will result in benefits that outweigh the cost. Currently, these state programs (referred to as “Zero Emissions Credit” or “ZEC”) in New York and Illinois are being litigated in federal district court. Similar legislative proposals were proposed in the Ohio and Connecticut statehouses and are being considered in other states.

#### **D. Transmission Planning**

States and the federal government share jurisdiction over various portions of the transmission systems. Although the federal government has jurisdiction over the RTOs and ISOs that manage the day-to-day grid operations of the transmission system, the states play a significant role in the planning and review of new transmission projects. States also are involved in the siting of transmission lines, a process that can take years of planning and preparation. However, before any of this occurs, transmission developers will evaluate the feasibility of any new project by assessing the need for a new transmission line and then determine how the cost of the project will be recovered. The requirements for such an evaluation are set forth in FERC’s Order No. 1000.<sup>12</sup>

Order No. 1000 established planning reforms requiring transmission providers to participate in both regional and inter-regional planning processes to ensure that transmission build-outs are efficient, cost-effective, and consider needs driven by public policy requirements. While the final rule did not require a particular methodology to expense the cost of a new transmission project, it mandated that each planning process develop cost allocation rules that adhered to six principles, among them, that costs must be allocated in a manner that is roughly commensurate with estimated benefits. Order No. 1000 also sought to open competition to building new transmission by eliminating certain rights of incumbent utilities to exclusively construct transmission projects within their service territory.

Nearly six years has passed since FERC issued Order No. 1000. In that intervening time, the agency has issued dozens of compliance orders and successfully defended this rule in court. As market participants across the various planning regions have adapted to the new processes and requirements over the years, it is now an appropriate time to review the effects of Order No.

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<sup>10</sup> *Hughes v. Talen Energy Marketing, LLC*, 578 U.S. \_\_\_\_ (2016)(Ginsburg, J.).

<sup>11</sup> A regional transmission organization (RTO) or independent system operator (ISO) serves as a third-party independent operator of the electric power transmission system.

<sup>12</sup> Order No. 1000, 136 FERC ¶ 61,951 (July 21, 2011), available at: <http://www.ferc.gov/whats-new/comm-meet/2011/072111/E-6.pdf>.

1000 on transmission planning and to evaluate whether the rule has been successful at improving transmission planning and increasing competition in developing transmission infrastructure.

#### **IV. ISSUES**

The following issues may be examined at the hearing:

- The increasing difficulty faced by grid operators and electric utilities to accommodate and value state policies and environmental attributes in the electricity markets.
- As grid operators continue adapting to a variety of changes in the electricity sector, reviewing what more can be done to ensure that the electricity markets produce efficient outcomes.
- As coal and nuclear generation retire, evaluating the risks to the reliability of the grid.
- The role that renewable resources and demand response resources can play as states exhibit a preference for non-emitting resources.
- The current state of transmission planning and whether additional reforms are necessary to improve transmission planning on a regional or intra-regional basis.

#### **V. STAFF CONTACTS**

If you have any questions regarding this hearing, please contact Jason Stanek, Annelise Rickert, or Wyatt Ellertson on the Majority Committee staff at (202) 225-2927, or Rick Kessler on the Minority Committee staff at (202) 225-3641.