

Testimony of Philip D. Moeller
Commissioner, Federal Energy Regulatory Commission
Senate Committee on Energy & Natural Resources
Hearing on “Keeping the Lights On- Are We Doing Enough to Ensure the Reliability
and Security of the U.S. Electric Grid?”
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Chairman Landrieu, Ranking Member Murkowski, and members of the Committee, thank you for inviting me to testify regarding the continued reliability of our nation’s bulk power system. I am Philip D. Moeller, and I have been a Commissioner at the Federal Energy Regulatory Commission since 2006.

Every day, men and women sit in windowless control rooms making decisions on how to operate the power grid. They ensure that the right power plants are running at the right time, and they carefully balance power generated with power consumed. On a minute-to-minute basis, they ensure that the lights, heaters and air conditioners stay on, and that manufacturing and other business activity continues. This winter had more than a few days when electricity supplies were at their limits, yet the operators kept the system running without interruption. Every one of us today owe each of them appreciation for their hard work. And going forward, we owe them the resources that they need to keep the lights on in the future.

I have long-stated that I can be “fuel-neutral” but I cannot be “reliability-neutral”. That is, I can be neutral as a regulator with regard to how competitive markets ultimately decide which types of power plants are most efficient and affordable, regardless of whether those power plants are fueled by water, natural gas, fuel oil, uranium, coal, wind, the sun or any other fuel. But I cannot be neutral about the reliability of our electricity.

In preparing today’s testimony I reviewed the positions that I have presented to Congress over the years on the subject of the reliability. For more than three years I have worked on the reliability implications of our nation’s unprecedented transition in the fuels we are using to generate electricity. Sufficient and reliable electricity is necessary for both economic opportunity and the heating and cooling that are essential to the health and safety of our nation’s citizens. An insufficient or unreliable supply of electricity endangers economic recovery and can be a matter of life and death during periods of extreme heat or cold.

Specifically in order to prepare for today, I reviewed the letter that I sent to Senator Murkowski in August 2011 in response to her questions about the reliability implications of environmental rules impacting the nation’s generation fleet. I also reviewed my testimony to the Energy and Power Subcommittee of the House Energy and Commerce Committee dated September 14, 2011. In both documents, I called for a more formal analysis of electric reliability implications of these rules, potentially including the Commission, the Environmental Protection Agency (EPA), the US Department of Energy, the North American Electric Reliability Corporation (NERC), and regional market participants. As far as I know, this formal analysis never commenced.

I was, and remain concerned that EPA's analysis greatly underestimated the amount of power production that would be retired due to these rules. I reiterate today what I stated then: I am not opposed to closing older and less environmentally-friendly power plants, but I am concerned that the compressed timeframe for compliance with the new environmental rules was not realistic given the amount of time it takes to construct new plants and energize transmission upgrades to mitigate plant closures. In addition, EPA's analysis failed to analyze whether there was sufficient transfer capability to move power from areas of energy surplus to areas short of power. Given that public policy aspirations cannot violate the laws of physics, we need to act carefully in transforming the power grid.

After two unusually warm winters in most of the country, our latest winter exposed an increasingly fragile balance of supply and demand in many areas in the Eastern Interconnection. Prices at times were extraordinarily high and consumers used more power because of the cold weather, which multiplied the impact of higher prices. Consumers are now beginning to receive utility bills that in some cases are reportedly several times what they paid during similar periods in previous years. Although the operators of the power grid worked hard to keep the system working, the experience of this winter strongly suggests that parts of the nation's bulk power system are in a more precarious situation than I had feared in years past.

In approximately 53 weeks, coal plants that do not employ specific emission-control technology will be closed. Those plants undergoing retrofits have the option to request a one-year extension. Those particular plants will also have the option of requesting an additional year for compliance, although this option comes with the uncertainty of being subject to civil litigation for violating the Clean Air Act during the additional year.

Regarding the structure of our electricity markets, our nation consists of different regions with unique market structures and varying mixes of fuels used to generate this electricity. New England and California are increasingly reliant on natural gas as a fuel to generate electricity, while much of the Mid-Atlantic, Southern and Midwestern regions rely more on coal, and my home of the Pacific Northwest relies heavily on hydropower. Thus the impact of environmental rules on generation resources and constraints in fuel supply chains differ across the nation.

Although there has been attention focused on the loss of coal-fired generation, nuclear plants are under increasing economic pressure to close as a result of record low capacity prices. In addition to several announced nuclear plant closures, some utilities have predicted additional retirements if specific units are unable to operate profitably. Losing these plants has long-term implications both to the reliability of the system and on the nation's emission profile.

To the extent that a region has other resources, the retirement of power plants may not have a material impact on consumers. Yet the experience of this past winter indicates that the power grid is now already at the limit. Heading into the next several years, some regions of the nation will be more vulnerable to supply shortages than others. It is vitally important to recognize, as this latest winter demonstrated, that weather is a significant variable in terms of electricity demand. We can hope for

mild winters and summers over the next several years, but hoping for mild weather is not a practical method of planning to meet economic growth and public safety.

For example, the Midwest is struggling to understand whether or not it will have sufficient capacity to handle peak weather over the next few years. In particular, in the region served by the Midcontinent Independent System Operator (MISO), the reserve margin is now expected to be at a deficit of approximately 2 Gigawatts (GW) in the Summer of 2016. Although this figure has been revised downward from a projected deficit of approximately 6 GW a few months ago, the new figure assumes that consumers will collectively reduce their electricity consumption every year by approximately .75 percent. Again, weather will play a role in the actual rate of consumption, as will the strength of economic (and especially industrial) recovery in the region.

In addition to looking at MISO collectively, specific locations across the Midwest may have more significant problems. For example, the Upper Peninsula of Michigan has long depended on a coal plant to serve local customers, but at this time, it is not clear how that part of the state will receive electricity service in the future. Regulators, including FERC, are considering this matter, but resolving regulatory issues is only one step in the process of building infrastructure. That is, infrastructure still needs to be built after the regulators conclude their processes, and that takes time.

Other regions of the country face similar problems, and executives at the utilities have various levels of confidence in their ability to promise the delivery of power on the hottest and coldest days of the year. Some executives are very confident in the ability of the power grid to handle the new environmental regulations, and other executives are hopeful that the weather will be mild. But beyond relying on the confidence of utility executives, as a FERC Commissioner with responsibility for the reliability of the grid nationwide, I need actual data on which power plants are retiring, and which resources will be ready to replace those retiring plants. To date, obtaining reliable data and thoughtful analysis as to the changing generation mix and its consequences has been a challenge.

Moreover, advocates for strong environmental rules promise that nothing they do will threaten reliability. And they promise to get their rules right. But on the other hand, advocates for traditional sources of power assert that the rules are not right, and that reliability may be threatened. These differing viewpoints can be tested with data.

In preparing this testimony, I sought the latest data from the various regions on the power plants being retired, and the resources that are replacing them. Lots of data are available, and some of them are contradictory. But lacking in that data is any guarantee that this nation will continue its history of reliability on the coldest and hottest days of the year. While nobody can guarantee future reliability, we can do better in understanding the risks and issues facing the power grid in the future. As the history of my testimony before Congress demonstrates, the sufficiency of our generating resources has been clouded by uncertainties arising from changing environmental regulation. While we have been sensitive to the fragility of our electric infrastructure in certain pockets of the country, this winter has demonstrated that our margin of surplus generation is narrower and more constrained than many understood. Together, industry and the federal government can do better in devoting resources to

looking carefully at individual power plants that are expected to retire, the load they serve, and the strategies being used to replace those power plants.

In conclusion, our nation is undergoing an unprecedented change in the electricity sector in a very compressed time frame. I continue to believe a more formal review process is necessary including the Commission, the EPA, and non-government entities to analyze the specific details of retiring units as well as the new units and new transmission that will be needed to manage this transition so as to best assure reliability of the nation's electricity sector.

Thank you again for the opportunity to testify, and I look forward to answering any questions from members of the Committee.