

**Testimony of Commissioner Philip D. Moeller
Federal Energy Regulatory Commission
Before the Energy and Environment Subcommittee
Of the Committee on Energy and Commerce
United States House of Representatives
Oversight Hearing for the Federal Energy Regulatory Commission
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Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to address the Subcommittee and discuss some of the major issues keeping us challenged at the Federal Energy Regulatory Commission. These issues will affect the future of energy production and consumption in our nation.

From my position, I see several major trends affecting the domestic energy markets that are relevant to the Commission's jurisdiction. In my testimony today I wish to highlight several of these trends and briefly mention how the Commission is addressing their impacts.

First, I believe this nation will be consuming an increasing amount of natural gas in the next several decades. Regardless of whether Congress enacts legislation affecting the cost of carbon dioxide emissions, it appears that more and more natural gas will be used to generate electricity as utilities shift away from constructing new coal-fired generation plants. With this assumption as a backdrop, I believe it is our responsibility at the Commission to adopt policies within our jurisdiction that provide for robust development of the nation's natural gas infrastructure.

As our chairman previously mentioned, the Commission has a major role in assuring adequate and safe energy infrastructure. Specific to natural gas infrastructure, the Natural Gas Act tasks the Commission with siting interstate pipelines, and certificating underground storage projects and on-shore terminals that ship or receive liquefied natural gas (LNG).

The Commission has been successful in promoting policies that have led to the deployment of this infrastructure. Since I joined the agency just prior to the beginning of Federal Fiscal Year 2007, the Commission has approved 6,768 miles of interstate natural gas pipelines representing 56,310 Million Cubic Feet per Day (MMcf/d) of pipeline capacity, 601 billion cubic feet of natural gas storage capacity, seven new LNG terminals and expansions of two existing LNG terminals. In addition, we have spent significant time and effort providing

guidance for potential developers of an Alaska natural gas pipeline. These infrastructure additions combined with abundant additions to our nation's natural gas supplies – especially from shale formations – and a downturn in demand has led to a period of relatively low and stable natural gas prices over the last 18 months.

When discussing energy infrastructure, it is also important to highlight the Commission's primary role in regulating the nation's system of hydropower production – the ultimate renewable source of energy. We serve as the safety regulator for approximately 2,500 existing non-federal hydropower projects throughout the nation. This responsibility is primarily accomplished on the ground through our five regional hydropower offices located in Atlanta, Chicago, New York, San Francisco, and Portland, Oregon.

As for our role in licensing, nearly all large hydropower project licenses considered by the Commission involve re-licensing of existing structures with the exception of several pump-storage projects. Since the beginning of FFY 07, the Commission has authorized almost 900 MW of new hydro capacity, in original licenses, relicenses, and exemptions for hydro-power in existing conduits and other small projects. Pending license applications propose almost 2,500 additional MW of new capacity, and applications for another 5,580 MW are expected to be filed in the next five years.

Breaking those numbers down further, since October 1, 2007, the Commission has issued 14 original license having a total proposed installed capacity of 149.3 MW, five 5-MW exemptions having a total proposed installed capacity of 1.1 MW, 30 license amendments and conduit exemptions authorizing a total additional capacity at existing projects of 458.1 MW, 11 conduit exemptions having a total proposed installed capacity of 15.3 MW, and six relicenses authorizing a total additional capacity at existing projects of 270.1 MW. The total new capacity authorized by the above issuances is 893.9 MW.

Pending license applications include: 21 original license applications proposing a total installed capacity of 1,943.5 MW, five 5-MW exemption applications proposing a total installed capacity of 1.0 MW, four applications for license amendments proposing a total additional capacity at existing projects of 52.1 MW, six conduit exemption applications proposing a total installed capacity of 0.556 MW, seven relicense applications proposing a total additional capacity at existing projects of 484.6 MW. If approved, the above applications would authorize 2,481.8 MW of new capacity.

In addition, there are significant relicense applications due to be filed in the next five years (2010-2015) that include 14 relicense applications for projects having

an installed capacity of more than 100 MW each. These projects represent a total installed capacity of 5,580 MW.

On the newer hydrokinetic front, including wave power, tidal power, and in-stream hydropower, the Commission has undertaken several efforts to facilitate the development of these exciting new technologies. Specifically, the Commission has implemented a five-year hydrokinetic pilot license that allows for these facilities to be placed in the water if the facilities are located outside of a sensitive environmental area, can be quickly removed if found to have problematic environmental consequences, and have a capacity of less than five megawatts. As for small hydropower development, the Commission held a technical conference late last year focused on improving the licensing process for small hydropower projects. The comment period closed last month and while Commission staff is still reviewing the submissions, we have already identified several common issues that we believe can be addressed.

Another emerging trend is that our nation is enjoying a significant expansion of renewable sources of electricity into the electric system. Most of these new resources are from wind, although hydropower, the newer hydrokinetic technologies, solar, and geothermal resources all have significant potential in various locations. Particularly with wind, increasing amounts of these new resources are challenging long-accepted approaches to grid operations and infrastructure planning. The variable nature of wind and solar resources present significant but not insurmountable challenges as we work to adjust the operation systems of the bulk-power grid, which was primarily designed around base load resources.

The Commission has recently undertaken two significant efforts to address the policy challenges of intermittent resources. In May 2009 the Commission contracted with Lawrence Berkeley Laboratory to conduct a comprehensive study of the implications of frequency variations that may occur as greater amounts of intermittent resources are added to the grid.

Earlier this year the Commission initiated a comprehensive Notice of Inquiry to address a wide range of issues pertaining to better integration of intermittent resources. Through this Inquiry, we are seeking comments on data and reporting requirements, scheduling practices, commitment process, balancing authority area coordination, the role of reserve products, capacity market reforms, and re-dispatch and curtailment practices necessary to accommodate these resources in real time. I am looking forward to reviewing the comments addressing these key areas in an effort to better integrate these valuable resources into the grid.

Another major trend is the extent to which the concept of a “smart grid” has received significant attention and regularly receives coverage in the mainstream media. This is a good development, as having consumers more aware and focused on the consequences of their electricity consumption has clear benefits. But this situation presents challenges as well. There exists a wide range of opinions of what the “smart grid” entails. And there is growing evidence that some consumers are showing signs of a backlash against the concept as in some cases its benefits have been oversold.

From my perspective, there are two major categories of “smart grid” applications. The first is at the wholesale or bulk-power level. In this category, “smart grid” investments entail new technologies (such as synchrophasor units) that allow the electric transmission system to be operated more efficiently and reliably. These investments are clearly within the jurisdiction of the Commission and are occurring now. In December, we approved a \$50 million synchrophasor investment submitted by the Pacific Gas and Electric Company. This is a regional project with neighboring utilities and the Western Electricity Coordinating Council intended to provide real-time data on key transmission system operating measurements in the region.

Most consumers however are more likely to think of the smart grid as some type of system or technological device that better manages their retail electricity consumption to reflect the real-time value of the electricity they consume. Energy policymakers – especially state and federal regulators – must take care not to “overpromise” the benefits of the smart grid, as it will take a relatively long transition period for retail electricity users to enjoy and appreciate the benefits of retail smart grid applications. If ratepayers perceive they are paying more for infrastructure while receiving little or no benefits from these investments we could face a consumer backlash that could significantly set back these efforts.

As someone who spent significant time working on telecommunications issues during its major transition period between the mid 1980s and the mid 1990s, I witnessed the benefits that consumers enjoyed when they were empowered with more choices and a greater ability to manage their telecommunications services. This led to new products and services enjoyed by consumers that were nearly unimaginable 25 years ago. This did not necessarily lead to lower bills or lower consumption; in fact it was just the opposite for most consumers. This could be the case for electricity consumers as well, but ideally smart grid applications will lead to more efficient usage of the resources we consume.

However, it is important to recognize that many of the benefits associated with a “smart grid” will be realized at the retail level and this will largely depend on state and local regulators embracing the concept of “dynamic” or “real time” pricing of

electricity. Admittedly, this transformational shift to adopt “smart grid” technology will not be easy, but if done carefully I believe that widespread benefits will be realized by the people of this nation.

Thank you again for the opportunity to address the Subcommittee, and I look forward to answering any questions.