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ONE HUNDRED FOURTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
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MEMORANDUM

November 30, 2015

To: Subcommittee on Energy and Power Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on "Oversight of the Federal Energy Regulatory Commission."

On Tuesday, December 1, 2015, at 10:00 a.m. in room 2123 of the Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing titled "Oversight of the Federal Energy Regulatory Commission." The Federal Energy Regulatory Commission's four current commissioners will be the only witnesses at this oversight hearing.

I. THE ROLE OF THE FEDERAL ENERGY REGULATORY COMMISSION

The Federal Energy Regulatory Commission (FERC or the Commission) is an independent agency (technically within the Department of Energy) headed by five commissioners. Current Chairman Norman C. Bay, previously was the Director of FERC's Office of Enforcement before being nominated by President Obama to the Commission. There are currently only three commissioners in addition to the Chairman, two Democrats (Bay, Cheryl LaFleur, Collettee Honorable) and one Republican (Tony Clark) on the Commission. President Obama has yet to nominate anyone for the vacancy created by the retirement of Republican Phil Moeller at the end of October.

FERC is an independent agency (technically within the Department of Energy) that regulates the interstate transmission and sale of electricity and natural gas, as well as the transportation of oil by pipeline. The Commission also oversees the permitting of interstate natural gas pipelines and related facilities, reviews proposals for liquefied natural gas terminals, and licenses hydroelectric projects. It is also responsible for the safety of associated dams.

Beyond its licensing and ratemaking authorities, FERC also has many oversight and enforcement authorities including those relating to wholesale electricity markets; protecting the

reliability of the electric grid; reviewing mergers, acquisitions and corporate transactions by electricity companies; and the siting of certain electric transmission facilities.

II. ELECTRICITY

A. Organized Electricity Markets

Under the Federal Power Act, FERC has authority to regulate wholesale and interstate electricity and transmission rates. In general, state public utility commissions have authority to issue siting approvals for new transmission lines.

FERC regulates and oversees six Regional Transmission Organizations (RTOs): California Independent System Operator (ISO), ISO New England, Midwest ISO, PJM Interconnection, the New York ISO, and Southwest Power Pool. The Electric Reliability Council of Texas (ERCOT) is an RTO that operates and manages the electric grid in Texas serving about 85 percent of the state's load, but is regulated at the state level and not by FERC. To date, 35 states participate and a majority of the electric load in the United States is managed in RTO markets.

In 1999, FERC issued Order 2000, which encouraged the voluntary formation of RTOs to administer the transmission grid on a regional basis throughout North America (including Canada). Order 2000 outlined certain minimum characteristics and function of RTOs. FERC is directly involved in the design and oversight of these organized markets through its role in reviewing and approving RTO tariffs and through its market oversight functions.

Currently, coal and nuclear facilities are unable to compete in the ISO New England, PJM and New York ISO markets. In each of these markets auctions are held for future generating capacity. The low cost of power from natural gas and renewable resources like solar and wind have made it difficult for fuels like nuclear and coal to compete because of their higher costs. FERC and the RTOs in question have taken steps recently to address this situation using its existing authorities.[1] However, subsidizing any entrant in a competitive market calls into question the ability of that market to function properly as it may discourage clean, new and less costly providers from bidding into the market. It also raises questions about the fairness of the costs that would be borne by ratepayers in such a situation. A more thorough discussion of these issues can be found in the June 3, 2015 FERC staff testimony before the Subcommittee.[2]

B. Renewable Energy Integration

[1] *See* Federal Energy Regulatory Commission (FERC), *Order on Proposed Tariff Revisions: PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208 (Jun. 9, 2015) (online at www.ferc.gov/CalendarFiles/20150609203832-ER15-623-000.pdf).

[2] Testimony of J. Arnold Quinn before the House Committee on Energy and Commerce, Subcommittee on Energy and Power (Jun. 3, 2015) (online at docs.house.gov/meetings/IF/IF03/20150603/103551/HHRG-114-IF03-Wstate-QuinnJ-20150603.pdf).

Wind and solar power are variable energy resources because they do not provide power 24 hours a day. However, there are a range of technologies and practices being developed and deployed to integrate these renewable energy resources into the grid to boost fuel diversity while maintaining reliability. For example, greater turbine aggregation, greater geographic dispersion of turbines, and improved wind forecasting are reducing overall wind generation variability. Similarly, innovative energy storage technologies, including thermochemical, electrochemical, and flywheel technologies for concentrated solar power installations, reduce the intermittency of solar generation.

To promote renewable integration FERC finalized Order 764 regarding integration of variable energy resources in June 2012.[3] "Variable energy resources" are defined as "an energy source that: (1) is renewable, (2) cannot be stored by the facility owner or operator, and (3) has variability that is beyond the control of the facility owner or operator." FERC finalized this rule in order to remove barriers to renewable energy integration while ensuring just and reasonable rates.

Order 764 requires utilities to offer intra-hourly, fifteen-minute interval scheduling and variable energy resources to provide meteorological and forced outage data for improved utility power production forecasting. These practices were designed to increase generation flexibility and reduce the amount of reserves that utilities are required to purchase to ensure electric reliability. FERC has issued subsequent updates to Order 764[4] and recent FERC proposals acknowledge the falling barriers to integrating renewables by eliminating certain exemptions for wind generators from requirements applicable to other generators. [5]

C. Reliability Standards

Section 215 of the Federal Power Act, enacted as part of the Energy Policy Act of 2005, provides for the establishment of mandatory reliability standards for the bulk-power system, including standards addressing cybersecurity threats. Under section 215, the North American Electric Reliability Corporation (NERC) is responsible for proposing FERC review and approval standards to protect and enhance the reliability and cybersecurity of the bulk-power system. NERC, which is a not-for-profit corporation principally composed of members from electric utilities and other stakeholders in the electric sector, develops standards on an open basis through its Standards Committee.

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[3] FERC, *Order No. 764, Integration of Variable Energy Resources*, 18 C.F.R. 35 (Jun. 22, 2012) (online at www.ferc.gov/whats-new/comm-meet/2012/062112/E-3.pdf).

[4] *See, e.g*, FERC, *Order No. 764-B, Integration of Variable Energy Resources*, Docket No. RM10-11-00 (Sept. 19, 2013) (online at www.ferc.gov/ whats-new/comm-meet/2013/ 091913/E-6.pdf).

[5] FERC, *Reactive Power Requirements for Non-Synchronous Generation*, 80 Fed. Reg. 73683 (Nov. 25, 2015) (proposed rule).

Reliability standards developed by NERC and approved by FERC under section 215 apply to the owners and operators of the bulk-power system, and are mandatory and subject to enforcement by the Commission with respect to U.S. entities. FERC cannot prescribe standards under section 215, but it has authority to direct NERC to develop standards or to modify existing standards. The scope of these standards is limited by section 215's definition of the "bulk-power system," which specifically excludes "facilities used in the local distribution of electric energy" and facilities in Alaska and Hawaii. Accordingly, these standards do not apply to lower-voltage distribution facilities that normally serve military installations and other end-users of electricity.

On November 22, 2013, FERC issued a final rule approving NERC's fifth version of its Critical Infrastructure Protection (CIP) Reliability Standards, while directing NERC to develop several modifications to strengthen the standards.[6] On May 16, 2013, FERC issued Order 779 to require NERC to develop reliability standards to address the risks posed by geomagnetic disturbances (solar storms) to the bulk power system.[7] On March 7, 2014, FERC directed NERC to develop reliability standards requiring owners and operators of the bulk-power system to address physical security threats and vulnerabilities.[8] On July 17, 2014, FERC proposed to approve the physical security reliability standard developed by NERC while directing NERC to make modifications.[9] FERC continues to undertake activities to ensure the security and reliability including convening a technical conference for early 2016 on the security of the critical electric infrastructure supply chain.[10]

D. Reliability and EPA Rulemakings

On August 3, 2015, EPA announced the final rule to regulate carbon pollution from existing power plants - known as the "Clean Power Plan."[11] The rule establishes emission guidelines for states to follow in developing plans to control carbon pollution from existing coal-

[6] FERC, *Order 791, Version 5 Critical Infrastructure Protection Reliability Standards*, 78 Fed. Reg. 72756 (Dec. 3, 2013) (final rule).

[7] FERC, *Order 779, Reliability Standards for Geomagnetic Disturbances*, 78 Fed. Reg. 30747 (May 23, 2013) (final rule).

[8] FERC, *Order Directing Filing of Standards* (Mar. 7, 2014) (online at www.ferc.gov/ CalendarFiles/ 20140307185442-RD14-6-000.pdf).

[9] FERC, *Physical Security Reliability Standard*, 79 Fed. Reg. 42734 (July 23, 2014) (notice of proposed rulemaking).

[10] FERC, *Notice of Technical Conference: Revised Critical Infrastructure Protection Reliability Standards*, Docket No. RM15-14-000 (October 28, 2015).

[11] U.S. Environmental Protection Agency (EPA), *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units* (Aug. 3, 2015) (Final Rule) (online at www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf) (hereinafter Clean Power Plan).

fired and natural gas-fired power plants under section 111(d) of the Clean Air Act.[12] That same day, EPA also announced final standards limiting carbon pollution from new, modified, and reconstructed power plants;[13] and a proposed federal plan and model trading rules[14] that "demonstrate a readily available path forward for Clean Power Plan implementation, and present flexible, affordable implementation options for states."[15]

It is important to note that in the 45 years since enactment of the Clean Air Act there has never been an outage attributable to a Clean Air Act regulation. These conclusions have been affirmed by a study conducted by the Analysis Group, which finds that "reliability concerns [about the rule] are misplaced."[16] The Analysis Group highlights the flexibility that states have to choose compliance options that ensure electric system reliability.[17] The report also highlights conditions in the electricity industry that are conducive to achieving compliance without reliability concerns, which include "low natural gas prices, significant existing under-utilized [natural gas generation] capacity, relatively slow growth in demand for electricity, increased supply expected from low-carbon renewable energy, and retirements of many of the older and least efficient coal-fired power plants" in the near term.[18] The report concludes:

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[12] EPA, *Clean Power Plan.*

[13] EPA, *Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units* (Aug. 3, 2015) (Final Rule) (online at www3.epa.gov/airquality/cpp/cps-final-rule.pdf) (hereinafter *GHG Standards for New, Modified, and Reconstructed Power Plants*).

[14] EPA, *Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014*; *Model Trading Rules*; *Amendments to Framework Regulations* (Aug. 3, 2015) (Proposed Rule) (online at www3.epa.gov/airquality/cpp/cpp-proposed-federal-plan.pdf) (hereinafter *Proposed Federal Plan and Model Rules*).

[15] EPA, *Proposed Federal Plan and Proposed Model Rules* (Aug. 3, 2015) (online at www3.epa.gov/airquality/cpp/fs-cpp-proposed-federal-plan.pdf).

[16] Analysis Group, *Greenhouse Gas Emission Reductions From Existing Power Plants: Options to Ensure Electric System Reliability*, at 2 (May 8, 2014) (online at www.analysisgroup.com/uploadedFiles/Publishing/Articles/Tierney_Report_Electric_Reliability_and_GHG_Emissions.pdf); *see also*, Analysis Group, *EPA's Clean Power Plan: States' Tools for Reducing Costs and Increasing Benefits to Consumers* (July 14, 2014) (online at www.analysisgroup.com/uploadedFiles/Publishing/Articles/Analysis_Group_EPA_Clean_Power_Plan_Report.pdf).

[17] Analysis Group, *Greenhouse Gas Emission Reductions From Existing Power Plants: Options to Ensure Electric System Reliability* (May 8, 2014) (online at www.analysisgroup.com/uploadedFiles/Publishing/Articles/Tierney_Report_Electric_Reliability_and_GHG_Emissions.pdf).

[18] *Id.* at 66-67.

> There is no reasonable basis to anticipate that EPA's guidance, the states' [State Plans] and the electric industry's compliance with them will create reliability problems for the power system, as long as EPA and the states plan appropriately and take timely actions to assure electric-system reliability in their plans.[19]

To address reliability concerns expressed by stakeholders during the comment period, the final Clean Power Plan includes: (1) a requirement that states consider reliability as they develop their state plans; (2) a basic design that allows states and affected power plants flexibility to include a variety of approaches and measures to achieve their goals, including trading within and between states, and other multi-state approaches; and (3) a reliability safety valve to address situations where, due to an unanticipated event or other extraordinary circumstances, there is a conflict between the requirements imposed on an affected power plant and maintaining reliability. EPA also continues to coordinate with the Department of Energy and the Federal Energy Regulatory Commission to monitor the implementation of the final rule to help preserve continued reliable electricity generation and transmission.

E. Demand Response

Demand response is a term for electricity customers reducing their use of electricity in response to grid needs or economic incentives. Individual consumers who reduce their consumption in exchange for incentive payments can be bundled together by utilities or third-party aggregators, who then bid the demand response resource into wholesale electricity markets. Traditionally, demand response was viewed as applicable to retail electricity policies and, therefore, within the jurisdiction of state public utility commissions. However, as electricity markets evolved in the wake of the Energy Policy Act of 2005 (EPAct 2005), demand response began to evolve into a wholesale issue and, accordingly, FERC issued Order 745 which attempted to deal with compensation for demand response offered at wholesale.

In Order 745, FERC required RTOs to compensate demand response resources in the wholesale electricity markets at the same level as electricity generators when the demand response resource can balance supply and demand in the market and when such compensation is cost-effective. In May 2014, the U.S. Court of Appeals for the DC Circuit vacated the rule on the ground that it encroaches on the states' jurisdiction to regulate the retail market.[20] At the request of the US Solicitor General, the case is currently before the Supreme Court.

III. HYDROELECTRIC POWER

Hydropower facilities built by utilities in interstate commerce are licensed by FERC under the Federal Power Act (FPA).[21] Under section 6 of the FPA, FERC licenses hydroelectric

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[19] *Id.* at 5.

[20] *Electric Power Supply Association v. Federal Energy Regulatory Commission*, No. 11-1486 (D.C. Cir. May 23, 2014).

[21] Federal Power Act, 16 U.S.C. § 791a et seq.

projects for periods of up to 50 years.[22] Section 15 of the FPA provides for the relicensing of existing projects and automatic annual extensions for those projects whose licenses have expired but have yet to complete the relicensing process.[23]

FPA predates modern environmental statutes such as the Clean Water Act, the National Environmental Policy Act, and the Endangered Species Act. As such, the FPA mostly focuses on power production with few protections for the environment, recreation or similar considerations. One such protection, however, is the requirement under section 4(e) that any license that falls within a reservation (e.g. a national wildlife refuge, national park, etc.) not interfere or be inconsistent with that reservation's purpose, and that the license be subject to "such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation."[24] Another important environmental protection instructs the Commission to require licensees to construct, maintain and operate "such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce" in order to protect fish populations.[25]

In 1986, Congress significantly amended the FPA to require greater consideration of the environmental and recreational impacts of hydroelectric facilities in the licensing process.[26] In particular, the Electric Consumers Protection Act (ECPA) required FERC's decision to issue a license not be based on power generation alone, but to also "give equal consideration to" such things as fish and wildlife protection and enhancement, energy conservation, protection of recreational uses of a river, "and the preservation of other aspects of environmental quality."[27] ECPA also, among other things, added subsection (j) to section 10 of the FPA which requires a license contain conditions to "adequately and equitably protect, mitigate damages to, and enhance fish and wildlife…affected by the development, operation, and management of the project" and that such conditions be based on recommendations from federal and state fish and wildlife agencies."[28]

As part of the EPAct 2005, Congress enacted a new set of reforms to the hydroelectric licensing process in response to longstanding complaints that the process both took too long and resulted in projects that were uneconomic.[29] Many licensees and their supporters continue to

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[22] *Id.* at § 799.

[23] *Id.* at § 808(a).

[24] *Id.* at §797(e).

[25] *Id.* at § 811.

[26] Electric Consumers Protection Act of 1986, Pub. L. No. 99-495.

[27] Federal Power Act, 16 U.S.C. §797(e).

[28] *Id.* at §803(j).

[29] *See* House Committee on Energy and Commerce, Subcommittee on Energy and Power, *Hearing on Hydroelectric Legislation*, 106th Cong. (Mar. 30, 2000) (online at www.gpo.gov/fdsys/pkg/CHRG-106hhrg64033/html/CHRG-106hhrg64033.htm).

view the process as overly long and onerous, and have called for further legislative changes particularly with regard to resource agencies' mandatory conditioning authority.[30]

IV. NATURAL GAS

Under section 7 of the Natural Gas Act, FERC reviews applications for the siting, construction, and operation of interstate natural gas pipelines. A pipeline company cannot construct or operate an interstate natural gas pipeline without a FERC-issued "certificate of public convenience and necessity."[31] The certificate establishes the terms and conditions for constructing and operating a pipeline, including those related to location, engineering, rates, and environmental mitigation. Section 7 grants the right of eminent domain to a pipeline company that is issued a certificate of public convenience and necessity by FERC.[32]

The permitting process typically begins with the pre-filing phase, which is intended to expedite the certificate application process by engaging stakeholders in the identification and resolution of stakeholder concerns prior to the filing of a formal application with FERC.[33] During this phase, FERC contacts agencies that will be involved in preparing the environmental analysis of the project so that the scope of the environmental analysis can be defined and public outreach can begin.[34] This is a voluntary phase that is used by about two-thirds of applicants for major interstate pipeline projects.

Once pre-filing activities are complete, or should an applicant choose to skip the pre-filing phase, the applicant would then submit an application for a certificate. During the application phase, the environmental analysis (either an Environmental Impact Statement or an Environmental Assessment) is prepared by FERC with the assistance of the cooperating agencies that have jurisdiction over aspects of the permitting. FERC also conducts non-environmental review and analysis to address engineering, tariff (rates and terms and conditions), policy, and accounting issues. FERC may place conditions on a certificate, such as obtaining all necessary federal and state permits and authorizations.[35]

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[30] *See, e.g.*, American Public Power Association, *Hydropower Issue Brief* (Feb. 2015) (online at publicpower.org/files/PDFs/23%20Hydropower.pdf).

[31] Natural Gas Act of 1938 § 7; 15 U.S.C. § 717f.

[32] *Id.*

[33] Federal Energy Regulatory Commission, *Pre-Filing Environmental Review Process* (online at www.ferc.gov/help/processes/flow/lng-1.asp).

[34] 18 C.F.R. § 157.21; U.S. Government Accountability Office, *Pipeline Permitting: Interstate and Intrastate Natural Gas Permitting Processes Include Multiple Steps, and Time Frames Vary* (Feb. 15, 2013) (GAO-13-221).

[35] U.S. Government Accountability Office, *Pipeline Permitting: Interstate and Intrastate Natural Gas Permitting Processes Include Multiple Steps, and Time Frames Vary* (Feb. 15, 2013) (GAO-13-221).

Under FERC regulations promulgated in 2006, which were made pursuant to amendments to the Natural Gas Act,[36] federal and state agencies must make final decisions on requests for federal authorizations no later than 90 days after FERC issues its final environmental document, "unless a schedule is otherwise established by federal law."[37] Those amendments further provided applicants with legal recourse to petition the U.S. Court of Appeals for the DC Circuit for agency failures to issue, condition, or deny a permit within the established deadlines.

Under section 3 of the Natural Gas Act, FERC also is responsible for issuing permits for specific LNG export and import facilities.

V. WITNESSES

The following witnesses have been invited to testify:

The Honorable Norman C. Bay
Chairman
Federal Energy Regulatory Commission

The Honorable Cheryl A. LaFleur
Commissioner
Federal Energy Regulatory Commission

The Honorable Tony Clark
Commissioner
Federal Energy Regulatory Commission

The Honorable Collette Honorable
Commissioner
Federal Energy Regulatory Commission

[36] Energy Policy Act of 2005 § 313.

[37] 18 C.F.R. § 157.22.