

**FERC PERSPECTIVES: QUESTIONS CONCERNING  
EPA'S PROPOSED CLEAN POWER PLAN AND  
OTHER GRID RELIABILITY CHALLENGES**

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**HEARING**  
BEFORE THE  
SUBCOMMITTEE ON ENERGY AND POWER  
OF THE  
COMMITTEE ON ENERGY AND  
COMMERCE  
HOUSE OF REPRESENTATIVES  
ONE HUNDRED THIRTEENTH CONGRESS  
SECOND SESSION

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JULY 29, 2014  
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**FERC PERSPECTIVES: QUESTIONS CONCERNING EPA'S PROPOSED CLEAN POWER PLAN AND OTHER GRID RELIABILITY CHALLENGES**

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**TUESDAY, JULY 29, 2014**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ENERGY AND POWER,  
COMMITTEE ON ENERGY AND COMMERCE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 10:01 a.m., in room 2123, Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Present: Representatives Whitfield, Shimkus, Pitts, Burgess, Latta, Olson, Gardner, Kinzinger, Griffith, Barton, Upton (ex officio), Rush, McNerney, Tonko, Yarmuth, Green Capps, Doyle, Barrow, Matsui, and Waxman (ex officio).

Staff Present: Nick Abraham, Legislative Clerk; Gary Andres, Staff Director; Charlotte Baker, Deputy Communications Director; Sean Bonyun, Communications Director; Matt Bravo, Professional Staff Member; Leighton Brown, Press Assistant; Allison Busbee, Policy Coordinator, Energy and Power; Annie Caputo, Professional Staff Member; Patrick Currier, Counsel, Energy and Power; Tom Hassenboehler, Chief Counsel, Energy and Power; Brandon Moonney, Professional Staff Member; Mary Neumayr, Senior Energy Counsel; Chris Sarley, Policy Coordinator, Environment and Economy; Jeff Baran, Staff Director for Energy and Environment; Phil Barnett, Staff Director; Caitlin Haberman, Policy Analyst; and Alexandra Teitz, Chief Counsel for Energy and Environment.

**OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY**

Mr. WHITFIELD. I would like to call the hearing to order this morning.

And I certainly want to thank all of the FERC commissioners for joining us at this morning's hearing in which we are going to get your perspectives on questions relating to EPA's proposed Clean Power Plan and its impact on reliability, as well as other challenges. I know that you all have a very busy schedule, and we do appreciate very much your being with us this morning to explore this very important issue.

At this point, I would like to recognize myself for 5 minutes for an opening statement. As I said, this is our second hearing on

EPA's proposed Clean Power Plan, which would change the way electricity is generated, transmitted and consumed in each State.

Our first hearing focused on the EPA itself, and I must say that it was obvious from that hearing that EPA does not have the expertise on the intricacies of electric markets and reliability implications of this radical transformation that they are proposing for the electric generation sector.

As I noted before, we are also seriously concerned with this proposed rule; for one thing, EPA's unprecedented use of the Clean Air Act is questionable on legal grounds. Legal experts, and we always know there are conflicting legal experts, but many legal experts see nothing in the Clean Air Act that empowers EPA to commandeer State decisionmaking authority over how each State produces, delivers, and uses electricity.

The EPA is also embarking on a comprehensive effort to Federalize electric generation, even though the Agency, as I said, has absolutely no energy policy setting authority or expertise. That is why it is important today to hear from the Federal body that actually does have that authority and expertise. Although, I might add that the top-down command and control efforts of EPA go far beyond even FERC's jurisdiction.

As a preliminary matter, I would like to better understand FERC's level of participation in this proposed rule. Is FERC an equal partner with EPA, a junior partner or hardly a partner at all in promulgating this rule? And what would be FERC's role in implementing this rule? We are also interested in tapping into FERC's considerable expertise on electric reliability. As I suspect, many reliability concerns with this proposed rule that have not been considered by EPA.

As it is, the Agency has already promulgated a number of different rules that have contributed to coal-fired power plant shut downs. This proposed rule would lead to more of the same. So we are interested in learning from FERC whether it believes coal-using states can abruptly and quickly move away from this base-load source without raising significant reliability concerns.

I am also worried by many of the assumptions of EPA that they make as to how States can meet electricity demand while complying with the rule. For example, the Agency suggests that States can easily ramp up natural gas-fired generation to help meet the target goals, but we know from the experience of last winter that several regions of the country have natural gas pipeline capacity constraints.

Similar questions about EPA's optimistic assumptions regarding the ability of renewables to help fill the void, especially given the many challenges that come with integrating intermittent resources into the grid. And the limitations of renewables will be exacerbated, if affordable and reliable base-load supplies, like coal and nuclear and even natural gas, face a constrained future as they do under the Obama Administration.

Overall, we see great risk in EPA trying to overrule the State's choices as to the best electricity mix as well as risk in constraining a State's ability to change its generation portfolio and as you know, at a certain timeframe within this proposed rule, States can't change, even if they might want to. So EPA's proposed efforts dic-

tating electricity use is quite troubling. This is an area where the reach of the Federal Government has been limited, and for good reason, since these local resource decisions are best left to States.

So we look forward to your testimony today. I know we have a lot of questions for you, and certainly, as I said, you all have the expertise and we look forward to your opening statements.

And with that, I would at this time recognize the gentleman from Chicago, Mr. Rush, for his 5-minute opening statement.

[The prepared statement of Mr. Whitfield follows:]

#### PREPARED STATEMENT OF HON. ED WHITFIELD

This morning we will be conducting our second hearing on EPA's proposed Clean Power Plan targeting each state's carbon dioxide emissions from electricity generation and use. Our first hearing focused on EPA itself, and I must say that our discussion with Assistant Administrator Janet McCabe left us with more questions than answers. Today, we solicit the Federal Energy Regulatory Commission's expertise and perspective, and I welcome all five Commissioners to this subcommittee.

As I have noted before, I find much reason for concern with this proposed rule. For one thing, EPA's unprecedented use of the Clean Air Act is on very questionable legal ground. I see nothing in the law that empowers EPA to commandeer state decision-making authority over how it produces, delivers, and uses electricity. But aside from the legal questions of whether EPA can do this to the states, there is the equally important question of whether the agency should do it. I have serious doubts whether this scheme is advisable or even workable.

Ironically, EPA is embarking on this comprehensive effort to federalize energy planning even though the agency has absolutely no energy policy-setting authority or expertise. That is why it is important to hear from a federal body that actually does have such authority and expertise, although I might add that the top down, command-and-control efforts of EPA go far beyond even FERC's jurisdiction. As a preliminary matter, I would like to better understand FERC's level of participation in this proposed rule—is FERC an equal partner with EPA, a junior partner, or hardly a partner at all in promulgating this rule? And what would be FERC's role in implementing it?

I am also interested in tapping into FERC's considerable expertise on electric reliability, as I anticipate many reliability concerns with this proposed rule that have not been considered by EPA. As it is, the agency has already promulgated a number of rules that have contributed to coal-fired power plant shutdowns. This proposed rule would lead to more of the same and indeed is seen by some as the nail in the coffin for coal. I am very interested in learning from FERC whether it believes coal-using states can abruptly move away from this base load source without raising significant reliability concerns.

I am also worried by many of the assumptions EPA makes as to how states can meet electricity demand while complying with the rule. For example, the agency suggests that states can easily ramp up natural gas-fired generation to help meet their targets. But we know from the experience of last winter that several regions of the country have natural gas pipeline capacity constraints. I look forward to hearing the Commissioners' thoughts on the achievability of EPA's assumptions about natural gas-fired generation.

I also have similar questions about EPA's very optimistic assumptions regarding the ability of renewables to help fill the void, especially given the many challenges that come with integrating intermittent resources into the grid. And the limitations of renewables will be exacerbated if affordable and reliable base load supplies like coal and nuclear face a constrained future as they do under the Obama administration.

Overall, I see great risks in allowing EPA to overrule each state's choices as to the best electricity mix, as well as risks in constraining a state's ability to change its generation portfolio as circumstances warrant.

I also find EPA's proposed efforts dictating electricity usage to be troubling. This is an area where the reach of the federal government has been limited, and for good reason since these local resource decisions are best left to states.

Most of all, I am very concerned what this proposed rule would do to electricity costs for consumers and for job-creating businesses. In my view, EPA has not been taking these concerns into account, which is another reason why I believe this hearing is important.

**OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS**

Mr. RUSH. I want to thank you, Mr. Chairman, for holding this important hearing on FERC perspectives, questions concerning EPA's proposed Clean Power Plan and other grid reliability challenges.

Mr. Chairman, as the title suggests, we are here today to hear from the FERC commissioners on the impact that we can expect President Obama's Clean Power Plan to have on a variety of issues related to fuel diversity, the integration of variable energy resources, natural gas, electricity generation, and grid reliability, among many other topics.

Mr. Chairman, last month, this subcommittee heard testimony from Acting Assistant Administrator of the Office of Air and Radiation, Janet McCabe, that in developing the Administration's Clean Power Plan, EPA consulted on reliability-related issues with DOE, FERC, State, public utility commissioners, as well as the Independent System Operators Regional Transmission Organization Council.

In fact, when determining the best system of emission reduction, or BSER, reliability was one of the key factors that EPA considered and the Agency made sure to allow flexibility for States to design and implement their own programs in order to ease pressure on the system reliability.

Additionally, Mr. Chairman, the EPA proposed to give States a 10-year period to achieve their final goals, which allows for measures to be phased in to ways that protect reliability. But why is it so important that we act at all? Well, Mr. Chairman, a series of assessment reports have come out recently, including the third national climate assessment, the fifth intergovernmental panel on climate change assessment, the EPA's climate change indicators in the U.S. 2014, and the bipartisan risky business, the economic risk of climate change in the U.S.

Each of these reports highlights the devastating consequences of climate change on both public health and the environment, and each urging policymakers, you and I, Mr. Chairman, to act. And what have we learned from all of these telling studies, Mr. Chairman? We have learned that 7 of the 10 top warmest years on record have occurred since 1998 and dangerous heat waves have become more and more frequent.

We have learned that extreme storms threaten to flood coastal communities, risking lives, and that cyclone intensity has increased over the past 20 years, where 6 of the 10 most active years since the 1950s occurring during that period. We have learned that dangerous wildfires continue to intensify, reducing air quality, threatening forests, threatening property, and risking the lives of firefighters. We have learned that the area of land burned by wildfires annually has increased since the 1980s and that 9 of the 10 years with the most land burned have occurred since 2000.

We have learned that by mid-century, farmers in the midwest will face crop year decline of up to 19 percent and by the end of the century, States like Oregon, Washington, and Idaho could experience as many hot days over 95 degrees Fahrenheit as currently expected in the State of Texas. We have learned that as climate

warms, labor productivity in key sections including construction, agriculture, and utilities would likely be reduced and that these reductions and labor productivity may be the greatest in the south-east.

So Mr. Chairman, it is for all of these reasons that President Obama has decided to act and fill the void left by this very same Congress in hopes of mitigating some of the most devastating effects on climate change due in large part to emissions from some of the Nation's oldest and dirtiest power plants.

Mr. Chairman, I look forward to this hearing on the FERC commissioners' responses to questions and on the FERC commissioners to the President's plan, their response to the President's plan. And with that, Mr. Chairman, I want to yield back all the time that I might have.

Mr. WHITFIELD. The gentleman's time is expired.

Mr. RUSH. Right on time.

Mr. WHITFIELD. At this time, I would like to recognize the gentleman from Michigan, Mr. Upton, chairman of the full committee for a 5-minute opening statement.

**OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN**

Mr. UPTON. Well thank you, Mr. Chairman.

A couple weeks ago, EPA's Acting Assistant Administrator Janet McCabe told this subcommittee that the Agency's proposed rule for existing electricity generation is not an energy plan but rather it is a pollution control rule. Then last week, Administrator Gina McCarthy made the exact opposite argument during her testimony before the Senate that the proposal is not about pollution control but, in fact, it is about energy and spurring investments in the EPA's preferred energy choices.

This comparison of exchanges by the two top officials at EPA demonstrates the Agency's current dilemma. After failing to push comprehensive cap-and-trade legislation through a Democratic Senate because of legitimate fears that it would hamstring our economy and make energy more expensive, the Administration is now pursuing a plan B approach by stretching the Clean Air Act to accomplish the exact same goals.

Assistant Administrator McCabe's answer is the one that the agency will likely stick to when the rule gets challenged in court, as EPA has no explicit energy policy setting authority under the law. But Administrator McCarthy had the more candid response, as this rule clearly is an effort by EPA to assert control in new regulatory authorities over States' electricity decisionmaking.

EPA's Clean Power Plan requires States to submit for approval individual or regional energy plans to achieve the agency's carbon dioxide emission targets. EPA is systemically Federalizing under the Clean Air Act what was once in the clear purview of the States or the markets. If the States are truly the labs of democracy, then why assert the Federal Government over their energy planning?

FERC is the agency charged by Congress with regulating electricity in interstate commerce, which is why it is so important to gain FERC's perspective today. Even this Agency, with explicit authority over electricity matters, does not have the expansive reach

envisioned by EPA's Clean Power Plan. I am particularly concerned about the Clean Power Plan's impact on energy diversity. Maintaining a diverse energy portfolio is a core component of this committee's vision for America's energy future, a vision that we call the architecture of abundance.

Consumers and businesses are best served by an electricity supply that can be generated from a variety of sources: Coal, nuclear, natural gas, obviously, as well as renewables, and in the proportion that each State deems best to suit its unique circumstances.

Maintaining diversity, both diversity in our electricity generation portfolio as well as the diversity of strategies for meeting a State's electricity needs is critical to affordable and reliable energy, but EPA's top-down Clean Power Plan will give us less of both kinds of diversity.

I thank the FERC commissioners today and certainly welcome Mr. Bay for his first appearance before us. And I yield the balance of my time to Mr. Shimkus.

[The prepared statement of Mr. Upton follows:]

#### PREPARED STATEMENT OF HON. FRED UPTON

Several weeks ago, EPA's Acting Assistant Administrator Janet McCabe told this subcommittee that the agency's proposed rule for existing electricity generation is not an energy plan, but rather is a pollution control rule. Then, last week, Administrator Gina McCarthy made the exact opposite argument during testimony before the Senate—that this proposal is not about pollution control but is about energy and spurring investments in the EPA's preferred energy choices.

This comparison of exchanges by the two top officials at EPA demonstrates the agency's current dilemma. After failing to push comprehensive cap-and-trade legislation through a Democratic Senate because of legitimate fears that it would hamstring our economy and make energy more expensive, the administration is now pursuing a Plan B approach by stretching the Clean Air Act to accomplish the exact same goals. Assistant Administrator McCabe's answer is the one the agency will likely stick to when this rule gets challenged in court, as EPA has no explicit energy policy-setting authority under the law, but Administrator McCarthy had the more candid response, as this rule clearly is an effort by EPA to assert control and new regulatory authorities over states' electricity decision-making.

EPA's Clean Power Plan requires states to submit for approval individual or regional energy plans to achieve the agency's carbon dioxide emissions targets. EPA is systematically federalizing under the Clean Air Act what was once in the clear purview of the states or the markets. If states are truly the "laboratories of democracy," then why assert the federal government over their energy planning? FERC is the agency charged by Congress with regulating electricity in interstate commerce, which is why it is so important to gain FERC's perspective today. Even this agency, with explicit authority over electricity matters, does not have the expansive reach envisioned by EPA's Clean Power Plan.

I am particularly concerned about the Clean Power Plan's impact on energy diversity. Maintaining a diverse energy portfolio is a core component of this committee's vision for America's energy future—a vision we call the Architecture of Abundance. Consumers and businesses are best served by an electricity supply that can be generated from a variety of sources—coal, nuclear, natural gas, as well as renewables—and in the proportion that each state deems best to suit its unique circumstances.

Maintaining diversity—both diversity in our electricity generation portfolio as well as a diversity of strategies for meeting a state's electricity needs—is critical to affordable and reliable energy. But EPA's top-down Clean Power Plan will give us less of both kinds of diversity.

I thank the FERC Commissioners for their testimony today, and welcome Mr. Bay for his first appearance before us. We look forward to a continued dialogue as we conduct oversight of the Clean Power Plan.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Reliable low-cost energy is a critical and key asset to this country and for job creation. We appreciate what you do to help maintain that.

In my sole region this winter, we came very close to the demand meeting supply, and I think that is a thing that hopefully you will help focus on. Base load is a key component of that, and as these rules drive some generating facilities out of the market closure, then we are going to have these concerns, and woe be it to the member of Congress that has brownouts during the hottest time of the summer or the coldest time in the winter.

There is also the big debate, you guys are involved with it on the transmission grid. As we pick and choose winners and losers and electricity generation, we have to move electricity larger distances and that stirs up the public. I think there is a credible debate about localizing generation and then not having these transmission fights.

As you have heard me before numerous times, I am also concerned about the physical security aspects. As a former Army officer during the Cold War, we worried about the Soviets doing electromagnetic pulses that would knock out transmissions and I know that is not the focus of this hearing, but security aspects of that, and maybe it is not a terrorist attack, maybe it is just a solar flare that really causes great concerns, and I am going to be watching that and involved with that in this year and the next couple years.

The last thing I would like to, with this time, is just, Chairman LaFleur, and I will follow up with my questions, when you last appeared for us, you said you would keep your fellow commissioners in consultation with you. I think some of the testimony kind of questions that, based upon meetings with the EPA, and I hope we get clarification on that.

Thank you, Mr. Chairman. I yield back my time.

Mr. WHITFIELD. The gentleman yields back.

At this time we will recognize the gentleman from California, Mr. Waxman, for a 5-minute opening statement.

**OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA**

Mr. WAXMAN. Thank you very much, Mr. Chairman. I would like to thank each of the commissioners for being here today, and I especially want to congratulate and welcome Mr. Bay, who has just been confirmed to the commission.

The Federal Energy Regulatory Commission plays a key role in maintaining the reliability of electric grid and protecting electricity consumers. That is what makes your job so important. The Republican members of this committee deny the existence of climate change or pretend it doesn't exist. They see the EPA's Clean Power Plan for the power sector as a threat to grid reliability, and that is why they have called you here this morning. They hope you will say something that will give them ammunition.

But those of us who are listening to the overwhelming scientific consensus see carbon emissions from power plants, not EPA regulations, as the real threat to the grid. The facts are sobering. Last year the levels of heat-trapping carbon pollution in the atmosphere

exceeded 400 parts per million for the first time in millions of years. Last year was the fourth hottest year on record, 7 of the 10 hottest years on record occurred in the last decade, and all 10 occurred since 1998.

Wildfires in the west have gotten much worse. Droughts are setting records and devastating harvests. Sea-level rise and fierce storms are threatening our coast. These, and many other indicators, tell us that global warming is harming us now, and it is going to get much worse. The power sector will feel these impacts. Intense storms will disrupt power delivery. Droughts and rising temperatures will force plant shutdowns. Transmission systems will lose capacity at high temperatures.

And that is why the Clean Power Plan is so important for the grid and for our future. It was issued by EPA, but I am sure it went through an interagency review, because it is important to get FERC's perspective. A significant transition is under way in the power sector. Market forces and public policies are driving a shift to renewables, demand side efficiency and natural gas fire generation. We have doubled our capacity to generate renewable electricity from wind and solar in just 5 years.

Wind power is already cost competitive with fossil fuel generation in parts of the country and the cost of solar power is plummeting. Natural gas costs less than coal and even coal boosters acknowledge that it is not cost effective to build new coal plants today because of the competition from natural gas, not because of any regulations by any government agency.

These changes in the electricity sector are bringing Americans cleaner air, new jobs, lower bills, and more choices. The Clean Power Plan will advance these positive developments. FERC, too, should make its own contribution. The statutory standards that FERC administers, gives the agency many tools to help combat climate change and create the clean energy economy of the future.

And I want to bring to the members' attention, the University of California Berkeley Center for Law, Energy, and the Environment report that was recently issued on this subject, authored by Steven Weissman and Romany Webb, which I ask unanimous consent to insert in the record.

Mr. WHITFIELD. Without objection.\*

Mr. WAXMAN. I hope all the commissioners will give these ideas serious consideration. As this new report shows, we don't have to choose between protecting the environment and reliable electricity. FERC grid operators, State public utility commissions and power plants, even progressive power companies are already planning for the changes that are under way.

Our nation has a proven track record of adapting to new environmental requirements without adverse impacts on reliability. We don't have to cling to the past, and we don't need to be afraid of the future. We can protect our environment, strengthen the grid, and leave our world a better place for our children.

Thank you, Mr. Chairman. I yield back my time.

Mr. WHITFIELD. Gentleman yields back.

\*The information has been retained in committee files and is also available at <http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-20140729-SD008.pdf>

At this time, we look forward to the opening statements of the commissioners of the FERC. And we have with us this morning, the Honorable Cheryl LaFleur, who is the Acting Chairman; we have the Honorable Phillip Moeller, who is a Commissioner; we have the Honorable John Norris and Tony Clark; and our newest member, Mr. Norman Bay of New Mexico.

So at this time, Chairman LaFleur, we will recognize you for 5 minutes for your opening statement. Make sure your microphone is on, and we look forward to your testimony.

**STATEMENTS OF THE HON. CHERYL A. LAFLEUR, ACTING CHAIRMAN, FEDERAL ENERGY REGULATORY COMMISSION; THE HON. PHILIP D. MOELLER, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION; THE HON. JOHN R. NORRIS, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION; THE HON. TONY CLARK, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION; AND THE HON. NORMAN C. BAY, COMMISSIONER, FEDERAL ENERGY REGULATORY COMMISSION**

**STATEMENT OF THE HON. CHERYL A. LAFLEUR**

Ms. LAFLEUR. Well, thank you very much, Chairman Whitfield, Ranking Member Rush, and members of the subcommittee.

I am honored to serve as the acting chairman of the Federal Energy Regulatory Commission, and I appreciate the opportunity to be with you this morning.

As this subcommittee is well aware, the Nation's resource mix is changing in response to a number of factors, including the increased availability of domestic natural gas, growing use of renewable generation in response to State and Federal policies, and new environmental regulations. Although these drivers of power supply changes are themselves outside the commission's jurisdiction, we must be aware of and adapt to them to carry out our responsibilities to promote reliability and ensure just and reasonable rates for customers.

Our work supports reliability in three primary ways. First, FERC supports the timely development of needed energy infrastructure. The commission has permitting authority over natural gas pipelines, LNG terminals, and non-Federal hydropower. We also support new infrastructure through our rate authority over those facilities and over electric transmission.

Second, FERC oversees wholesale power markets that support reliability. We work to ensure that centralized capacity, energy, and ancillary services markets send correct signals to support the procurement and retention of resources needed for reliability.

Finally, FERC directly oversees the reliability of the grid by establishing mandatory standards for the bulk power system under Section 215 of the Federal Power Act. It has been almost 10 years since Congress enacted Section 215, and I believe the commission has established a solid track record not just on day-to-day reliability, but on emerging issues, like cybersecurity, physical security, and geomagnetic disturbances.

As I mentioned, one of the key drivers of changes in our resource mix are new EPA regulations regarding air, water, and solid waste

pollution. EPA is, of course, responsible for promulgating environmental regulations under the statutes it implements. We, in turn, are responsible for helping ensure that reliability is sustained as new environmental regulations are carried out. Our work in this area is not limited to interactions with EPA but includes collaborations with states, industry, and other stakeholders.

One recent example is our work on the mercury and air toxic standards where we issued a policy statement outlining how we would advise EPA on when additional time might be needed to comply with the mercury and air toxics in order to avoid a reliability violation. We also established a regularly-scheduled public forum with NARUC, co-led by my colleague, Commissioner Moeller and myself and our State colleagues, to regularly collaborate with EPA and other stakeholders on how the MATS rule and other rules were being implemented.

I have closely followed the development of the Clean Power Plan because I believe it will have implications for the operation of the grid and require FERC engagement to ensure that reliability is sustained. FERC staff commented on the proposal through the OMB interagency review process from a reliability perspective. Among other recommendations, FERC staff emphasized the need for the development of natural gas pipeline and electric transmission infrastructure to enable compliance with State compliance plans. FERC staff also emphasize the importance of regional cooperation to promote efficient compliance with the Clean Power Plan.

I appreciate that the plan gives considerable flexibility to the States to use the different building blocks it outlines, but I believe FERC will have at least three important roles: First, to support the development of pipelines and transmission that will be needed to attain the goals of the plan; second, to consider how market structures need to adapt to support the research choices that states make under the plan; and finally, to continue to be closely engaged with EPA and the states and others to identify any problems and help to make sure they are addressed.

Reliability has been my top priority in my time at FERC, and I believe it is job one for anyone involved in electricity. I have seen many changes to the Nation's resource mix in the past 30 years, but the central importance of reliability is unchanged, even as new technologies and new environmental challenges and aspirations emerge. As FERC chairman and as a commissioner, I will continue to champion these issues.

I thank the subcommittee for giving me the opportunity to appear, and I welcome your questions.

Mr. WHITFIELD. Thank you, Ms. LaFleur.

[The prepared statement of Ms. LaFleur follows:]

**One-page summary**  
**Testimony of FERC Acting Chairman Cheryl A. LaFleur**  
**Before the U.S. House of Representatives**  
**Committee on Energy and Commerce**  
**Subcommittee on Energy and Power**  
**FERC Perspective: Questions Concerning EPA's Proposed Clean Power Plan**  
**and other Grid Reliability Challenges**  
**July 29, 2014**

FERC supports the reliability and security of the electric grid in several ways. For example, FERC is responsible for authorizing the construction of certain energy infrastructure, such as interstate natural gas pipelines, liquefied natural gas terminals, and non-federal hydropower generation. In addition, FERC works to ensure that energy markets provide appropriate signals for investment in needed infrastructure, including wholesale electric generation and transmission facilities. Finally, FERC oversees the development and enforcement of mandatory reliability standards for the bulk power system.

These areas of FERC's work are increasingly important as the nation's resource mix changes in response to a number of factors, including increased availability of natural gas, growing use of renewable energy generation in response to state and federal policies such as renewable portfolio standards, and new environmental regulations. Although these drivers of power supply changes are largely outside of the Commission's jurisdiction, we must be aware of, and adapt to, these developments in order to carry out our responsibilities to promote reliability and ensure just and reasonable rates for customers.

With respect to new environmental regulations, EPA is of course responsible for promulgating environmental regulations under the statutes it implements. However, FERC can and should help the EPA understand the implications that such regulations may have on electric reliability and support utility compliance with those regulations where necessary and to the extent possible. Importantly, the Commission's work related to EPA regulations is not limited to interactions with EPA, but also includes collaboration with states, industry, and other stakeholders.

FERC has closely followed the development of the Clean Power Plan because it is clear that such regulations and related state compliance plans could have implications for the operation of the grid. Once the Clean Power Plan entered the Office of Management and Budget (OMB) interagency review process, FERC provided input to the EPA primarily from a reliability perspective. In addition, because it appears that vital decisions in this area will be made at the state level, I believe it is important to reach out to our state colleagues on these issues.

Clearly, the Commission must remain engaged with EPA, states, NERC, RTOs, ISOs, industry, and other stakeholders in the coming years as new EPA regulations are implemented to understand the potential impacts of the rule and to ensure FERC's regulations and policies concerning energy markets, infrastructure, and grid operations accommodate and support compliance with these requirements.

**Written Testimony of Cheryl A. LaFleur  
Acting Chairman  
Federal Energy Regulatory Commission**

**Before the  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
United States House of Representatives**

**Hearing on  
FERC Perspective: Questions Concerning EPA's Proposed Clean Power Plan  
and other Grid Reliability Challenges**

**July 29, 2014**

Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee:

I am honored to serve as the Chairman of the Federal Energy Regulatory Commission (FERC or Commission). I have appeared before this Subcommittee several times in my roles as a Commissioner and Acting Chairman of the Commission. Today I appreciate the opportunity to testify at this hearing on EPA's Proposed Clean Power Plan and other Grid Reliability Challenges.

Reliability has been a top priority for me throughout my more than four years on the Commission, and it has constituted a growing portion of the Commission's work after the passage of the Energy Policy Act of 2005, which, among other things, granted the Commission new authority over reliability. FERC supports the reliability and security of the electric grid in several ways. For example, FERC is responsible for authorizing the construction of certain energy infrastructure, such as interstate natural gas pipelines, liquefied natural gas terminals, and non-federal hydropower generation. In addition, as part of our responsibility to ensure just and reasonable rates, FERC works to ensure that energy markets provide appropriate signals for investment in needed infrastructure, including wholesale electric generation and transmission facilities. Finally, FERC oversees the development and enforcement of mandatory reliability standards for the bulk power system.

These areas of FERC's work are increasingly important as the nation's resource mix changes in response to a number of factors, including increased availability of natural gas, growing use of renewable energy generation in response to state and federal policies such as renewable portfolio standards, and new environmental regulations. Although these drivers of power supply changes are largely outside of the Commission's jurisdiction, we must be aware of, and adapt to, these developments in order to carry out our responsibilities to promote reliability and ensure just and reasonable rates for customers. With respect to new environmental regulations, FERC has worked with other federal and state regulators, regional transmission organizations (RTOs) and independent system operators (ISOs), the North American Electric Reliability Corporation (NERC), industry, and other stakeholders to understand the potential impacts. In addition, we have worked, and will continue to work, to ensure our regulations and policies concerning

energy markets, infrastructure, and grid operations accommodate and support compliance with these requirements.

**Supporting Reliability through Infrastructure, Markets and Rates, and Mandatory Reliability Standards**

Before discussing how FERC helps sustain reliability as environmental regulations change, it is important to first understand the many ways in which FERC's work supports reliability.

First, a reliable grid requires the timely development of needed energy infrastructure. The Commission supports such infrastructure development both directly, through its authority to permit the construction of natural gas pipelines, LNG terminals, and non-federal hydropower generation, and indirectly, through its rate authority under the Federal Power Act, Natural Gas Act, and Interstate Commerce Act. For example, the Commission plays a role in the development of interstate electric transmission facilities through its responsibility to ensure just and reasonable rates for wholesale power transmission service. The Commission recently revised its methodology for calculating the return on equity for interstate transmission facilities. This revised methodology will help promote investment in needed transmission infrastructure while ensuring that transmission rates remain just and reasonable. In addition, FERC's work on transmission planning processes facilitates the development of needed transmission infrastructure by requiring more open and cost-effective regional and inter-regional transmission planning.

Second, the Commission's oversight of energy market rates and structures supports reliability by facilitating the development of accurate price signals and efficient market rules. One example of this is our ongoing work to ensure centralized forward capacity markets adequately support the procurement and retention of resources to meet future reliability and operational needs. In addition, because it is crucial that energy and ancillary services markets send the appropriate price signals to attract investments needed to sustain reliability, the Commission recently announced a new proceeding to evaluate issues regarding price formation in the energy and ancillary services markets operated by RTOs and ISOs. The Commission is also working to improve the efficiency of its markets by addressing the coordination of scheduling practices of natural gas pipeline capacity and electricity markets, in light of increased reliance on natural gas by electric generators.

Finally, FERC directly oversees reliability of the grid by approving mandatory reliability standards for the bulk power system pursuant to Congress' direction in section 215 of the Federal Power Act. Reliability Standards are developed by NERC, pursuant to an open and inclusive stakeholder process, and submitted to the Commission for review and approval. These standards support the day-to-day blocking and tackling work necessary to keep the lights on, like tree trimming and relay setting coordination. Nearly 10 years after Congress enacted FPA section 215, I believe FERC has established a solid track record with respect to "blocking and tackling" activities, issuing more than 60 orders on new or modified reliability standards on a wide range of issues, including, among others, reliability planning criteria and protection system maintenance and testing. FERC is also making significant progress on emerging issues, like

cybersecurity, geomagnetic disturbances and physical security. We have approved the Version 5 Critical Infrastructure Protection (CIP) standards, which require that all bulk electric system cyber assets receive a level of protection commensurate with their impact on the grid. We also recently approved the first of two required standards on geomagnetic disturbances (GMD) and just this month proposed to largely accept the first-ever physical security standard for critical facilities.

With that overview of FERC's work to support grid reliability, I will now turn to FERC's activities to sustain reliability under a number of new environmental regulations – including EPA's recently-proposed Clean Power Plan – which are, as I noted above, one of the factors driving major changes in the nation's electric generation resource mix.

#### **Sustaining Reliability Under New Environmental Regulations**

EPA is of course responsible for promulgating environmental regulations under the statutes it implements. However, FERC can and should help the EPA understand the implications that such regulations may have on electric reliability and support utility compliance with those regulations where necessary and to the extent possible. Importantly, the Commission's work related to EPA regulations is not limited to interactions with EPA, but also includes collaboration with states, industry, and other stakeholders to evaluate how those regulations will impact the industries that FERC regulates.

One recent example of collaboration between FERC, EPA, state regulators and other stakeholders is on the EPA's Mercury and Air Toxics Standards (MATS) rule. The Commission has monitored and assessed the potential impact of the MATS rule since the rule was issued in 2011, and that work is ongoing. In conjunction with the issuance of the MATS rule in 2011, the EPA indicated that it will seek advice from the Commission, among others, on requests for extra time for electric generators to comply with the rule. In response, FERC issued a policy statement in May 2012 outlining how it will advise the EPA on whether the failure to operate a specific unit might lead to a violation of a Commission-approved reliability standard. The policy statement also detailed the Commission's intention to continue addressing the potential impact of this and other EPA rules on reliability with state commissions in a regularly scheduled public forum, the National Association of Regulatory Utility Commissioners (NARUC)/FERC Forum on Reliability and the Environment, which I co-chaired with Commissioner Moeller and our state colleagues. The Forum met six times over a two-year period and included regular attendance by senior EPA officials. In addition, the Commission has addressed the impacts of the MATS rule as part of technical conferences on reliability held since 2011. Finally, FERC staff also participates in regular conference calls with EPA, DOE, and the RTOs/ISOs to discuss implementation of EPA rules, including the MATS rule, and obtain regular updates regarding ongoing compliance.

I believe that FERC's collaboration with the EPA and other stakeholders on the MATS rule provides a good example of how FERC can lend its reliability expertise as the EPA implements new environmental regulations that may impact the nation's grid and power supply, including the recently-announced Clean Power Plan. However, the Clean Power Plan and MATS rule have some significant differences; while the MATS rule is plant-specific and institutes specific limits on emissions for each power plant, the Clean Power Plan directs each state to create its own state

compliance plan to reach an overall emissions reduction goal. In developing their compliance plans, states may choose from among several different tools, and can coordinate regionally. Additionally, the timeline for implementation of the Clean Power Plan is longer than that for the MATS rule. Although the core tenets of the rules are different, I believe that we should build on the collaborative model used to implement the MATS rule and adapt it to the Clean Power Plan.

FERC has closely followed the development of the Clean Power Plan because it is clear that such regulations and related state compliance plans could have implications for the operation of the grid. In addition, because it appears that vital decisions in this area will be made at the state level, I believe it is important to reach out to our state colleagues on these issues. As an example, the continuing FERC/NARUC work on reliability and the environment that I mentioned previously (which has now been folded into NARUC's standing Electricity Committee) has provided a public forum for conversations concerning these issues, including not only FERC and NARUC representatives, but also senior EPA officials and industry representatives. Furthermore, as addressed in my responses to the pre-hearing questions, FERC staff and EPA staff met in the months leading up to the issuance of the Proposal to discuss concepts under consideration by EPA staff.

Once the Clean Power Plan entered the Office of Management and Budget (OMB) interagency review process, FERC provided input to the EPA primarily from a reliability perspective. Among other recommendations, FERC staff emphasized that in light of EPA's proposal to rely on increased capacity factors for natural gas fired generation resources, gas pipeline adequacy should be considered from a regional perspective, not just a national perspective, due to existing constraints on the system. With respect to the EPA's proposed reliance on increased deployment of renewable resources, FERC staff provided input regarding the general timeline for the construction of transmission to remote resources and identified specific studies that explored questions about dependence on a significant amount of renewables to ensure adequate ancillary services. FERC staff also emphasized that, in order to promote efficient compliance with the Clean Power Plan, the EPA should not only allow but also encourage regional compliance.

As I mentioned earlier, the Commission can support state efforts to reliably comply with the Clean Power Plan both directly, through its authority over permitting of certain infrastructure, particularly natural gas pipelines, and indirectly, through its statutory rate authority, market oversight, and collaborative roles with states and other important stakeholders. With respect to infrastructure, the proposed rule contemplates power supply changes that could require substantial investments in additional infrastructure over the multi-year compliance period to ensure reliability, particularly with respect to increased utilization of gas-fired generation. As a result, I believe that it is important that the Commission continue its work to support the timely development of needed energy infrastructure.

The Commission should also consider whether changes to rate structures and market rules will be needed to support reliable implementation of the state compliance plans. These efforts could include both current Commission initiatives and new initiatives, as appropriate. For example, the Commission held a technical conference in April of this year to explore the impacts of the polar vortex on the RTOs and ISOs. The Commission is in the process of assessing the comments from the April conference, including how the changing resource mix fits with the Commission's

ongoing assessment of the ability of capacity markets and other resource adequacy constructs to meet the future reliability and operational needs of the electric system. This and other Commission initiatives will play a critical role in determining whether adjustments to Commission-jurisdictional rates and markets will be needed to sustain reliability as states implement their state compliance plans.

Finally, once EPA promulgates a final rule and states begin to develop and implement their state compliance plans, I believe FERC, along with NERC and the RTOs/ISOs, should continue to work with the states, industry, and the affected stakeholders to provide needed information and assistance. As the state compliance plans are implemented, FERC must also monitor any reliability impacts from the Clean Power Plan on an ongoing basis. Once the state compliance plans are developed, I believe that the Commission could assist as appropriate in the determination of whether they are simultaneously achievable. One compliance approach available to states under the proposed rule is the use of regional cooperation to meet carbon reduction targets. In the electric sector, the Commission has supported regional approaches for market efficiency and transmission planning purposes, and I believe that regional approaches under the Clean Power Plan could play an important role in facilitating compliance with the rule. In this regard, believe it may be helpful if EPA's process for approving state compliance plans, or modifications to those plans, could include a way to consider interstate and regional reliability issues and address them adequately.

Some stakeholders have questioned whether EPA's Clean Power Plan will have an adverse impact on the overall reliability of the bulk power system. I am mindful of these concerns. As this Subcommittee is aware, the states are just beginning the process of developing their compliance plans in order to comply with the proposed rule and have been provided with significant flexibility in their compliance approach. As the states develop their compliance plans, I believe that the Commission will have a role in evaluating the compliance proposals' impacts on matters under the Commission's jurisdiction, including infrastructure, market rules, and reliability.

### **Conclusion**

Clearly, the Commission must remain engaged with EPA, states, industry, and other stakeholders in the coming years as new EPA regulations are implemented. I believe that recent experience with the MATS rule demonstrates that the Commission takes its role in reliability seriously, and I look forward to continuing the Commission's work on these important issues. I thank the Subcommittee for giving me the opportunity to appear before you today, and I welcome any questions you may have.

Mr. WHITFIELD. At this time, I recognize Mr. Moeller for his 5-minute opening statement.

**STATEMENT OF THE HON. PHILIP D. MOELLER**

Mr. MOELLER. Thank you, Chairman Whitfield, Ranking Member Rush, and members of the committee.

I am Phil Moeller. I have been on the commission since 2006. Thank you for holding this hearing on a very important subject, the EPA's Clean Power Plan. As its name indicates, this is essentially power or electricity policy, so it is very relevant that we are here talking about it because we have the job under Section 215 of the Federal Power Act to assure the reliability of the Nation's bulk power grid.

And reliability should not be, and I don't think it is, a partisan issue, but it has to be our job, number one, so we have to look skeptically at these kinds of proposals to make sure that we can keep the lights on, and more importantly the heating and the cooling on when consumers need it.

The biggest challenge, I think, in this rule is that it treats states individually in terms of compliance, but electricity markets are fundamentally interstate in nature and that just creates some challenges that may not be insurmountable but need to be looked at very closely. In my written testimony, I have noted a few examples of states that certainly have concerns about how they will be treated.

Idaho, for instance, consumes coal power but doesn't generate it, so what does that mean for its baseline now in going forward? We have states like Wisconsin and New Jersey that spend significant amount of money, billions of dollars to clean up their fleet, but they don't get credit under the Clean Power Plan. And then there are stranded assets, such as the one I note in Mississippi, where \$1 billion of scrubbers is essentially not counted under the plan. So those are issues you will hear about as the comments come in on the rule.

The rule is based on compliances on four building blocks. You have probably gone into them. I will point out one that has a little bit of concern to me, which is essentially getting the gas fleet up to 70 percent dispatch. Now, the challenge there is that we have traditionally gone under something called economic dispatch where the cheapest power plants are called in the merit order of dispatch. This would change it to environmental dispatch. You can do that with a carbon fee and mesh the two, but obviously the prices go up. It is a fundamental change, not only with how we regulate power but actually how the system is operated, and it needs to be examined very closely.

The related issue that concerns me has to do with the example we have in New England. Almost everybody in the country, not universally, but almost everyone believes that we need more pipeline into New England because of the pipeline constraints. The challenge is financing it, because pipelines have traditionally been financed under long-term contracts with local distribution companies, but the new customer class for pipelines is basically power

plants that may or may not be called on a daily basis based on the market they are in.

So with that, the challenge is how do you get long-term financing with power plants that aren't going to sound essentially long-term contracts. Now, these are not insurmountable problems, but it is a real issue in New England. We haven't been able to solve it and I am concerned that if we move to a system where there is a lot more gas generation to be dispatched, are we going to have the pipeline capacity? Can we finance the pipeline capacity to meet that need? It is a real conundrum, one that we need to take a look at more closely.

Essentially, what I have been calling for is a more formal role for our commission as we deal with EPA on these issues, kind of an open and transparent role, so that basically we can get the engineers together to discuss the challenges involved because it really comes down to a very granular level with reliability. The laws of physics will trump regulations. There are always unintended consequences when we shut down power plants because, although they may not produce a lot of power, they may be producing other products, ancillary services that maintain reliability in the grid. And the location of those plants is key, and sometimes you can't replicate a plant in that location.

So the granular level of analysis is very important, and I think it should be open and transparent because, engineers can disagree, but we need kind of an open forum for them to do it. I am also not here to say that we shouldn't do anything. I think we can do a lot of good by essentially improving and modernizing the pricing of electricity. Under the leadership of Acting Chair LaFleur, the FERC has opened up a proceeding on price formation in the wholesale markets. This is overdue, it is a good effort. I am kind of impatient. I want this to move forward, because we have some inefficient pricing right now.

Similarly, at the retail level, I urge my colleagues at the State level to consider more realtime and dynamic pricing at the retail level because that will send more accurate pricing to consumers, and hence, they should use their power more efficiently.

Again, thank you for having us, and I look forward to any questions you have.

Mr. WHITFIELD. Thank you, Mr. Moeller.

[The prepared statement of Mr. Moeller follows:]

**Summary of FERC Commissioner Philip D. Moeller****July 29, 2014 Hearing on EPA and FERC Reliability Challenges**

FERC has a responsibility to promote the reliability of our nation's bulk power system under section 215 of the Federal Power Act. Therefore, the Commission must analyze the reliability impacts of the proposed rules.

And because FERC is the economic regulator of the nation's wholesale electricity markets and is directed by statute to assure just and reasonable rates, the Commission also has a duty to analyze the economic consequences of the proposal.

FERC and EPA need to bring our nation's reliability engineers together in a public and transparent forum to address questions and develop answers. Just as the Commission does not have expertise in regulating air emissions, I would not expect the EPA to have expertise on the intricacies of electric markets and the reliability implications of transforming the electric generation sector. Any such process must be open and transparent, and cannot be merely a private and paperless discussion between FERC and EPA employees.

The biggest challenge in implementing the proposed rule is that electricity markets are interstate in nature. Thus the proposal's state-by-state approach results in an enforcement regime that would be awkward at best, and potentially very inefficient and expensive.

Most concerning is the assumption of increased "re-dispatch" of natural gas units of up to 70 percent. Related to this concern is whether there will be sufficient pipeline capacity to support this increase in natural gas generation. Simply put, if plant owners don't know on a daily basis whether and to what extent their power plants will be called upon to run or not, they will be reluctant to sign a 20-year or 30-year contract to buy natural gas. Yet pipelines rely on such long-term contracts to finance system expansion. And while EPA's proposal does not require infrastructure to be installed overnight, such improvements sometimes cannot be implemented within the deadlines of specific rules.

Based on the timelines involved, EPA is essentially capping the amount of national electricity consumption in 2030. Although the relationship between economic growth and electricity consumption growth has evolved over the past several decades, it is impossible to accurately predict this relationship out to 2030, just as it would be impossible to accurately predict the Dow Jones Industrial Average in 2030.

The laws of physics trump written words. Although a specific generating plant may not contribute significant power to the grid, its other outputs such as voltage support or "inertia" qualities may contribute significantly to grid stability. Moreover, the details of how reserve margins are calculated can have a significant impact on the ability of excess capacity in one load pocket to transfer power to another load pocket that needs capacity.

Independent of the EPA's proposal, a huge opportunity for improving the nation's air arises in the context of the prices we pay for electricity, as modernizing pricing policies has enormous potential to improve the environmental quality of the nation's generation sector.

**Written Testimony of FERC  
Commissioner Philip D. Moeller**

**Before the  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
United States House of Representatives**

**Hearing on  
FERC Perspective: Questions Concerning EPA's Proposed Clean Power Plan  
and other Grid Reliability Challenges**

**July 29, 2014**

Chairman Whitfield, Ranking Member Rush, and members of the Committee, I am Phil Moeller, and I have been a member of the Federal Energy Regulatory Commission since 2006. Thank you for your ongoing oversight and for providing us the opportunity to discuss our responsibilities as members of the Commission.

In our testimony today, you asked us to specifically focus on the reliability implications of the Environmental Protection Agency's (EPA) proposed Clean Power Plan and other grid reliability challenges.

Although there is an ongoing debate about whether the EPA's proposal will withstand legal challenges, I will leave that discussion to others. Instead, I will focus on the reliability implications of the proposal, the workability of the proposal, unintended consequences of the proposal, and recommendations for additional actions.

If it isn't already obvious, the title of the proposed rule, the Clean Power Plan, makes it clear that EPA is creating national electricity policy. EPA's proposal sets emission standards on a state-by-state basis with initial compliance levels mandated in

2020, ongoing to 2030. The Commission has a responsibility to promote the reliability of our nation's bulk power system under section 215 of the Federal Power Act. Therefore, the Commission must analyze the reliability impacts of the proposed rules. And because the Commission is the economic regulator of the nation's wholesale electricity markets and is directed by statute to assure just and reasonable rates, the Commission also has a duty to analyze the economic consequences of the proposal.

The biggest challenge in implementing the proposed rule is that electricity markets are interstate in nature. Thus the proposal's state-by-state approach results in an enforcement regime that would be awkward at best, and potentially very inefficient and expensive. The interstate nature of these markets is illustrated by the example of Idaho. While that state currently does not generate electricity from coal plants within its borders, it consumes coal-generated energy produced in at least five other states. If those states decrease their coal generation and Idaho compensates by increasing generation from its existing natural gas plants, it creates complications related to its initial carbon baseline and its carbon baseline going forward.

The proposal allows for states to comply through four compliance "building blocks": 1) "Heat Rate Improvements" averaging six percent for coal generation units; 2) "Re-dispatch" of natural gas generation units of up to 70 percent; 3) "Low- and Zero-Carbon Generation" intended to encourage renewable generation and encourage the continued operation of nuclear units that are economically challenged, and 4) "Demand-Side Efficiency" intended to decrease demand and improve energy efficiency.

The effectiveness of these building blocks will undoubtedly be addressed in many of the comments submitted on the proposed rule. From what I have heard, these comments are likely to opine on whether the six percent goal for heat rate is achievable, whether the proposal to save nuclear units will be counter-productive and lead to more nuclear unit closures, and whether the demand side efficiency goals are cost-effective and achievable.

Most concerning to me, however, is the assumption of increased “Re-dispatch” of natural gas units of up to 70 percent. For decades we have relied on the concept of “economic dispatch” of electric generation. Simply put, the power plants with the lowest operating cost are called first to generate electricity --- with various reliability requirements and other factors as part of the decision, depending on the structure of various markets. By moving to what is essentially “environmental dispatch,” units will be called to generate primarily based upon the emission profile of the unit. This can be reconciled with economic dispatch if a hypothetical carbon fee is added to each generator’s costs to reflect its emissions profile, forcing the costs of greater emitting generation higher in the merit order of dispatch. In addition to the higher costs involved, I look forward to reading public comments on the reliability implications of moving to this higher level of natural gas generation.

Related to this concern is whether there will be sufficient pipeline capacity to support this increase in natural gas generation. Pipelines have traditionally been financed with long-term contracts--often 20 or 30 years in length--between natural gas distribution

companies and the natural gas pipelines. However, the fastest growing set of customers for pipelines are now natural gas generation units, often in “organized” wholesale markets with day-ahead and real time energy markets that require power plant owners to bid into these markets (as opposed to baseload plants in vertically integrated markets).

New England illustrates the new challenge with expanding pipeline infrastructure. Despite widespread (although not universal) recognition that New England needs additional pipeline capacity, the fundamental challenge has been how to finance this expansion when generators are reluctant to sign long-term contracts. Simply put, if plant owners don’t know on a daily basis whether and to what extent their power plants will be called upon to run or not, they will be reluctant to sign a 20-year or 30-year contract to buy natural gas.

My concern is that this challenge of financing adequate pipeline infrastructure in New England will be replicated in other markets because of the proposal’s increased reliance on natural gas generation. This may not be an insurmountable challenge, but we haven’t yet found solutions to the New England situation and it is a topic that needs additional and substantial attention.

I find another aspect of the proposal troubling. Based on the timelines involved, EPA is essentially capping the amount of national electricity consumption in 2030. Although the relationship between economic growth and electricity consumption growth has evolved over the past several decades, it is impossible to accurately predict this relationship out to 2030, just as it would be impossible to accurately predict the Dow

Jones Industrial Average in 2030. For the past several years the nation has seen unprecedented stability in electricity demand, with some areas experiencing slow, flat or even declining demand in electricity consumption.

Last year saw an increase in electricity consumption in both the residential and commercial sectors. Industrial demand, however, fell. Yet with the real possibility of long-term low-to-moderate prices of natural gas (thanks to increased domestic production), I hope our nation is poised for an industrial and manufacturing renaissance. If this does in fact take place, we could see significant increases in industrial consumption of electricity. The nation must be careful not to impede this economic growth due to consumption targets that are essentially imposed by the EPA's proposal. I have been a long-standing supporter of increased energy efficiency and rationally-compensated demand response, but essentially capping electricity consumption may have unintended consequences, including limiting economic opportunity for many Americans.

From a fairness perspective, I know it is discouraging for some states to have undertaken aggressive measures to improve the air quality of their in-state generation, and then not to receive credit for these early adopter actions. For example, I understand that over the past decade a Wisconsin utility has invested—and ratepayers are paying for these investments through their rates—billions of dollars in cleaner technologies that have resulted in dramatic improvements to the emission profile of the utility's generation fleet. Similarly, a billion dollars was recently spent on scrubbers for a single site in Mississippi. Yet those investments are taken for granted in the EPA's plan, and may

result in consumers paying for utility investments that will not be used. Wisconsin and Mississippi are not alone here, as other states have invested heavily in reducing air emissions over the past few years.

Going forward and at a minimum, I will reiterate my request for a formal role for the Commission with the EPA as it relates especially to the reliability implications of the proposal. Convening the appropriate reliability experts (including the Commission, and possibly the North American Electric Reliability Corporation, electric wholesale market operators, power generators, electricity consumers, along with input from the states) to examine the reliability implications is necessary to avoid additional unintended consequences. Although the EPA's proposal mentions the concept of reliability more than a hundred times, it's the details of calculating proper reserve margins and specific load pockets that matter from a reliability perspective.

As we have seen with the implementation of EPA's mercury rule (MATS), load pockets matter because the laws of physics trump written words. Although a specific generating plant may not contribute significant power to the grid, its other outputs such as voltage support or "inertia" qualities may contribute significantly to grid stability. Moreover, the details of how reserve margins are calculated can have a significant impact on the ability of excess capacity in one load pocket to transfer power to another load pocket that is short. These challenges can be addressed, but it takes engineering expertise, especially when designing optimal infrastructure improvements. And while

EPA's proposal does not require infrastructure to be installed overnight, such improvement sometimes cannot be implemented within the deadlines of specific rules.

My point is that getting the electricity reliability experts together in a public and transparent forum to address these questions and develop answers is the responsible approach. Engineers can debate and disagree on details, but presently there is no public forum for this discussion to occur. Just as the Commission does not have expertise in regulating air emissions, I would not expect the EPA to have expertise on the intricacies of electric markets and the reliability implications of transforming the electric generation sector. Hence I reiterate my call for a forum to publicly discuss the extent of reliability challenges under the proposal and potential solutions to these challenges. The EPA's plan is not the Commission's rule but rather proposed by the EPA, so the responsibility to formally address the reliability implications should be promoted by the EPA with extensive Commission involvement. Any such process must be open and transparent, and cannot be merely a private and paperless discussion between government employees.

Independent of the EPA's proposal, a huge opportunity for improving the nation's air arises in the context of the prices we pay for electricity, as modernizing pricing policies has enormous potential to improve the efficiency of the nation's generation sector. Under the leadership of Acting Chair LaFleur, the Commission has begun an overdue and extensive project to examine ways to improve price formation at the wholesale level. Flaws in existing price formation were greatly exposed during last winter's Polar Vortex events. More accurate pricing will lead to a more efficient

wholesale market and will serve as a more rational approach toward balancing the supply and demand of electricity.

In this policy realm, I also urge our colleagues on state commissions to accelerate their consideration of implementing real time pricing at the retail level. Presently, most residential consumers (and many other consumers) do not see the real-time cost of the electricity they consume. In reality, that means they are consuming too much electricity when it is the most expensive instead of shifting that consumption to periods when electricity is the least expensive. But with existing flat-rate pricing, consumers have no incentive to practice “load shifting”. Real time pricing provides better consumption signals to consumers, and can greatly improve air quality by reducing peak demand (which is usually in the summer when air quality is most threatened). I realize that extensive consumer education and effective societal “safety nets” will be needed before markets transition to real-time pricing. But I also trust that with effective consumer protection mechanisms, citizens will make rational choices based on real economics and a more efficient and cleaner generation profile will result.

Regardless of the ultimate outcome of EPA’s proposal, significant actions can be taken in the meantime to improve the nation’s air emissions in the electricity sector. Overall, market forces—especially lower natural gas prices—have gradually contributed to the transformation of a cleaner electric generation fleet as some coal units have been replaced by natural gas units. The EPA’s Mercury and Air Toxics Standards Rule (MATS) has contributed to this trend, although at a faster pace than I would have

preferred. I remain very concerned about the reliability implications of MATS, especially in the Midwest during the summer of 2016. Adding new carbon dioxide compliance obligations on top of MATS creates a complex regulatory environment, the implications of which are not yet understood. Yet this topic is important and needs to be addressed promptly, as reliability is as much a necessity for the EPA as it is for the American people.

Thank you for the opportunity to express my views, and I look forward to any questions you may have for me.

Mr. WHITFIELD. Mr. Norris, you are recognized for 5 minutes.

**STATEMENT OF THE HON. JOHN R. NORRIS**

Mr. NORRIS. Chairman Whitfield, Ranking Member Rush, and members of the subcommittee, thank you for the opportunity to share with you my thoughts on how EPA's proposed Clean Power Plan will work. The fact that we are here today having this discussion on reducing carbon emissions, to some degree, tells me it is already working.

As you may have read in my written testimony, I believe the EPA's proposed Rule 111(d) can work. The flexibility provided in the rule, along with the continuous communication and cooperation between EPA, FERC, NERC, the states, RTOs, industry and others to make appropriate adjustments along the way to ensure reliability lead me to the conclusion that we can reduce carbon emissions and keep the lights on. If the question is, is this the most efficient way to reduce carbon emissions in our electric sector? I would give you a firm no, it is not.

I applaud the EPA for this action but recognize that this was the only option available to curtail harmful greenhouse gas emissions because Congress has failed to act. Placing a cost or a value on carbon consistent across the country would, I believe, be a far and away more efficient and fair way to address carbon emissions. While the EPA's proposal does provide more certainty on energy investment than before an industry struggling with uncertainty, it is nowhere near the clarity and direction legislation establishing a national energy policy on carbon would provide.

Let me share with you an excerpt from an interview from a former Republican colleague of yours. He tells of a conversation he had with an elderly gentleman about the need for a carbon policy, and I quote: I was talking to him about, "What about your grandkids?" And he said, "I think they can get by on their own." I don't think that caring fellow really meant it quite that bluntly. I think what he meant was somebody will figure something out.

And, of course, my response to him is, "Well, technological innovation will sure work better if we set the economics right, because what we believe as conservatives and people who believe in free enterprise is if you get the economics right, somebody chasing the dollar would deliver to me a better product. They will make money and they will serve my needs. That is what makes our system go around.

"But if you can't get to that next step of getting the price on carbon, because if you attach that price, the external hidden cost of the product, it changes economics and all kinds of exciting things happening for the enterprise system." But he wants to stick at that point of saying it is not a cost, that CO<sub>2</sub> is not a cost; it is not a negative. If it is a negative externality, it is a value of zero. If you attach a zero to it, there is no change in the pricing structure. So for him, it is very important to continue to deny the science because he wants to assign a zero to the cost of carbon.

That was former Congressman Bob Inglis, who is providing a strong, conservative economic voice on this issue, a voice worth listening to. I, too, believe the best way to address climate change is

to first recognize the overwhelming evidence provided by scientists throughout the world that our planet faces severe consequences if we do not take action. The U.S. can and should help lead a worldwide effort to reduce carbon emissions, and that our innovative and entrepreneurial spirit will seize the opportunities to tackle this problem.

If we are here today to debate whether the EPA's proposal will work or not, I fear Congress is missing the point, again. A rule that is not yet finalized but empowers 50 states with significant flexibility to address the proposed regulations and then grid operators to work to incorporate those State decisions into their operations, it will nearly be impossible to be proved today that it will or will not work.

But if the EPA and every other entity involved commits to making it work, I am confident it is achievable. But for the sake of our consumers, our utility businesses and America's entrepreneurs and innovators, we as a Nation could take a better course of action and enact a national energy policy to begin the transition to a low-carbon economy.

Reliability will always be one of my highest priorities as a commissioner. It is my responsibility, and I will not hesitate to step forward and take appropriate action if grid security is threatened by this proposed rule or any other threat or action. But this rule is a very gradual transition, and I believe a very necessary transition, for I believe my responsibility as a citizen and public servant is to also speak up for my children, the children of America and the world. We are talking about action that threatens their future.

Much talk, I think, is spent on addressing the financial debt we are leaving our children, and I commend all of you here today who are addressing that issue. But I hope you will also consider the atmospheric debt we are not adequately addressing. This is a debt I believe even more devastating but also deadly.

Thank you. That concludes my testimony. I look forward to your questions.

Mr. WHITFIELD. Thank you, Mr. Norris.

[The prepared statement of Mr. Norris follows:]

**Written Testimony of Commissioner John Norris  
Federal Energy Regulatory Commission**

**Before the  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
United States House of Representatives**

**Hearing on FERC Perspective:  
Questions Concerning EPA's Proposed Clean Power Plan  
and other Grid Reliability Challenges**

**July 29, 2014**

Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee, thank you for the opportunity to share with you my thoughts on EPA's proposed Clean Power Plan and other grid reliability challenges.

My name is John Norris and I have served as a Commissioner on the Federal Energy Regulatory Commission (FERC) since January of 2010.

**Summary**

Climate change is occurring, and the question is not whether we address greenhouse gas emissions, but how we best address those emissions. EPA's proposed rule 111(d) is an important first step that addresses climate change by appropriately seeking to reduce carbon emitted by our nation's electric power system. The proposed rule will spur investment in non-carbon or lower-carbon emitting generation resources, as well as energy efficiency and other demand-side resources. Increased investment in new technologies is essential for an effective transition to a low-carbon economy.

Such a transition will be challenging, but as the MATS rule has demonstrated, we as a nation should be well positioned to meet those challenges. FERC has already been considering

whether market changes are needed to address our nation's changing resource mix. We are examining the wholesale energy and capacity markets and have issued rules addressing variable energy resources, ancillary services, and storage to effectively integrate renewable resources and other new technologies into our electric grid. I also recognize that the Commission needs to remain vigilant regarding the impacts of 111(d) on the reliability of the grid, and expect that we will continue to coordinate with the North American Electric Reliability Corporation and work closely with the states to ensure that system planners and operators are able to maintain or even enhance reliability.

#### Testimony

As we begin this important discussion regarding EPA's proposed rule 111(d), I think it is essential to consider the magnitude of the problems facing our country and the world with respect to climate change. I believe that the overwhelming body of scientific evidence proves that climate change is occurring and that the burning of fossil fuels and resulting emissions from that activity is far and away the largest and main contributor to the alteration of our atmosphere and the change in climate. I also believe the resulting gradual increase in global temperature will have a devastating impact on the U.S. and world economy and life on our planet. Thus, the question becomes not should we address greenhouse gas emissions, but how can we best address those emissions.

The EPA's recent proposed rule 111(d) is the most significant potential action that we have taken to date as a nation to begin to address the devastating impact of climate change. While I view it as only a start to further efforts that will be needed to curtail the burning of fossil fuels and reducing carbon emissions, it is a positive first step.

The first positive impact that the proposed rule will have is to provide some much needed certainty for investment in the energy system we need to build for the future. While the proposed rule fails to place a direct cost on the production of carbon emissions, it will spur investment in non-carbon or lower-carbon emitting generation resources, as well as in energy efficiency and other demand side resources. Greater investment in new technologies that enable us to better manage our energy consumption, integrate variable energy resources, and lower the costs of renewable energy generation will accelerate the development of these technologies and enhance our ability to more efficiently manage the transition to a low-carbon economy.

One reason we have already started the transition toward a low-carbon economy is the implementation of the EPA's MATS rule. That rule has contributed to the retirement of many of our highest polluting and least efficient coal-fired generation plants. While MATS has contributed to the retirement of many of these units, a number of the retiring units are old, inefficient plants that would have likely retired soon anyway. Although challenges remain in some areas of the country in providing adequate generation resources to maintain our reserve margins, our electric energy system generally appears well positioned to meet the requirements of the MATS rule.

While it will be challenging to manage the further transition that 111(d) contemplates, it is important to recognize that our energy system has already demonstrated it can handle such challenges. Renewable generation technology continues to make advancements that are lowering costs and increasing the predictability of generation levels. Challenges created by the use of distributed generation resources are not new as a result of 111(d) but in fact distributed generation is already spreading rapidly and being successfully integrated in various regions of the country. Smart grid and smart meter technologies have been deployed for over a decade.

We are continuing to deploy and utilize these technologies because of the valuable contribution they make to grid operations and demand-side management. Industry continues to develop and construct transmission and non-transmission alternatives, enabling greater access to all forms of generation, more competitive wholesale markets, and enhanced reliability.

For our part, FERC is working to respond to the changes occurring to the electric grid and the nation's resource mix. Last year, FERC began a significant look into whether our capacity markets are functioning adequately, and we recently began an inquiry into price formation in our energy and ancillary services markets. Among other things, we are considering whether varying characteristics of different resources are being appropriately valued in the marketplace. Recent FERC rulemakings such as the variable energy resources and ancillary and storage compensation rules are examples of actions that can be taken to meet changes in the resource mix while maintaining or even enhancing reliability.

Going forward, FERC needs to remain vigilant on reliability standards and coordinate with the North American Electric Reliability Corporation in order to communicate any reliability concerns to EPA. We need to work closely with the states on the supply of adequate resources and be prepared to make appropriate market rule changes to enable states, regional transmission organizations and other system planners to meet resource adequacy requirements.

It is certainly too early to say that the implementation of proposed rule 111(d) will proceed without challenges. For example, rule 111(d) appropriately recognizes the key role that nuclear energy will play in our low-carbon future. Yet, our existing nuclear fleet is under significant economic distress. To achieve our carbon-reduction objectives, we must make every effort, both at the state and federal level, to ensure that our existing nuclear fleet remains viable. But, with the multiple tools available today and the increasing technological capabilities to meet

these and other challenges of 111(d), we should not shy away from taking action to mitigate climate change. America's history of technological innovation, along with our entrepreneurial spirit to compete in the rapidly growing worldwide demand for clean energy technologies, leaves me with little doubt of our ability to meet EPA's proposed rule 111(d). As I stated earlier, 111(d) is really just a first step to meet the challenges of climate change. To reach the worldwide goal of 80 percent reductions by 2050, a much steeper reduction in carbon emissions will be necessary. Hopefully the technologies developed and the lessons learned in taking this first step will better enable us to tackle these steeper challenges awaiting us in the future.

I believe America can lead the world in the effort to mitigate the devastating impact of climate change. I have been hopeful for a number of years that Congress would step up to the challenge and pass legislation to begin that effort. Unfortunately, to date, that has not occurred. Even without Congressional action, the scientific consensus on climate change has led to a nearly complete halt of the construction of any new coal-fired generation plants that do not sequester carbon. But, I also believe that Congress' failure to pass legislation to implement a national energy policy and address climate change has discouraged needed investment in technologies that can help us address climate change. For a long-term sustainable energy supply, what we need more than anything is a level of certainty that will spur investment in new technologies necessary for a competitive energy system for the future. The EPA's rule 111(d) provides some hope because of the direction and certainty it provides. But more is needed.

Included with my remarks here for the hearing are my responses to questions from the Committee. Many of the questions from the Committee ask for information on what FERC has done or is doing with regard to the EPA's recent proposed rule 111(d). I defer many of those

responses to Chairman LaFleur as the FERC staff works under her direction. I have provided my thoughts to those questions where you have asked for my opinions.

Thank you for the opportunity to testify today. I am happy to answer any questions you may have.

Mr. WHITFIELD. Mr. Clark, you are recognized for 5 minutes.

**STATEMENT OF THE HON. TONY CLARK**

Mr. CLARK. Thank you, Chairman Whitfield, Ranking Member Rush and members of the committee.

I hope you will allow me a point of personal privilege for an introduction that I have today which is, in probably the half a dozen or so times that I have testified in front of Congress, I have never had my boys be able to join me. They have always been in school or back home in North Dakota, but today they are here. So Alex and Thomas.

Mr. WHITFIELD. We will have some questions for Alex and Thomas.

Mr. CLARK. I am sure they look forward to them. They can now look 30 years into the future being able to look back into a Congressional Record and see their names are in there.

Out of respect for your time, I won't repeat the testimony that I submitted, but instead will probably just extend a little bit upon it. It is quite clear from the questions that we received from all of you, the pre-hearing questions that preeminent in the minds of the committee are, can FERC answer questions related to the EPA rule and whether there will be a concern about either cost or reliability.

I think, hopefully, what you gathered from my responses were that it is probably too early to know with specificity exactly what those impacts will be and the primary driver for that is that we simply don't know what the potential State implementation plans, compliance plans might look like, and we also don't have a sense for what a Federal implementation plan or a Federal compliance plan would look like.

Typically, as the EPA has proposed rules, there would be a marker for what a Federal plan might look like; in this case, we don't have that. So it is a little tougher for us, I think, as a commission, to model it. But I think we can make some general comments about the trendline that we might at least wish to keep in mind, especially as a commission as we work through some of these issues.

And what really got me thinking about it was an article that I read in the Washington Post last Friday, actually, after I had submitted my written testimony, which was about the challenges that a community in Colorado was having with regard to changing over their fleet in a relatively short amount of time, and there were some costs concerns that were taking place in that community. It happened to be Pueblo. And it got me thinking about the EPA proposed rule and what might be pathways to it.

It is quite clear, although the EPA has said that they will offer flexibility to states, a pathway that they have offered up as a potential one that might be compliance, relies in some part on a combination of perhaps cap and trade, like a regional gas house initiative like they have in the northeast, some sort of reliance on energy efficiency and demand response resources, a shuttering of coal plants and, at the same time, pivoting towards heavier reliance on natural gas, perhaps some sort of renewable portfolio standard in the State.

So you put all these things together, and it actually looks very much like what one of the regions has already been going through, which is the one that Commissioner Moeller mentioned, which is New England. I think one of the things that FERC and Congress will need to keep its eye on as we potentially move forward in these rules is, at least from my perspective, if someone were to ask me which area of the country do you have the most concern about both as a matter of cost and reliability, I would probably point to New England. Not solely because of some of the things that have happened already with regard to carbon regulation, but certainly some of those things do play into it.

So should the EPA rule come to pass? I would think that FERC would need to ensure that as it moves forward, we would want to make sure that some of the concerns that we have seen already happen in New England with the pipeline constraints and the rapid conversion to gas and the very tight reliability system and sometimes very high cost for electricity aren't exported to other regions of the country, and overcoming that could be, indeed, a challenge.

With that, I will end my testimony, yield back the remainder of our time, and look forward to your questions.

Mr. WHITFIELD. Thank you very much, Mr. Clark.

[The prepared statement of Mr. Clark follows:]

**Written Testimony of Commissioner Tony Clark  
Federal Energy Regulatory Commission  
Before the  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
United States House of Representatives  
Hearing on  
FERC Perspective: Questions Concerning EPA's Proposed Clean Power Plan and other Grid  
Reliability Challenges**

**July 29, 2014**

Chairman Whitfield, Ranking Member Rush and members of the Committee, thank you for the invitation to be with you today. Your hearing on reliability of the nation's electric grid is a timely one.

While the Commission has been given responsibility by Congress to ensure the reliability of the bulk power system, the threats to that reliability are many and the Commission's tools are somewhat limited. In this testimony, I will offer initial thoughts about several areas that have the potential to impact electric reliability, and close with comments on the sweeping changes that may be imminent with proposed new Environmental Protection Agency rules.

First, I will comment about areas in which I believe the nation has made vast improvements, and that is in relation to addressing the causes of previous large failures in the bulk power system. The good news is we are actually in a much better position than we had previously been, largely because of significant utility investments and mandatory, enforceable reliability standards. It is not to say that large scale blackouts cannot and will not happen in the

future – they may indeed occur at some point. But it is to say that our Nation has significantly reduced the likelihood that those events will reoccur for the same reasons as in the past – such as poor vegetation management, human error, poor planning and lack of visibility into the workings of the real-time grid.

Yet in some ways, our reliability risks are just as daunting as before due to emerging threats such as increasing cyber attacks and physical attacks.

### **Cybersecurity**

If you were to ask me which of the risks to electric reliability causes me the greatest concern – I would probably identify cyber risk as first on the list. Through its critical infrastructure protection standards, the Commission has been active in attempting to mitigate the risk of a successful cyber attack. However, as has been stated by FERC staff and members of the Commission in the past, the tools FERC currently has available to it are inadequate in the face of a fast moving or imminent attack, and to the degree FERC does have authority it is limited to the bulk power system and not the myriad of other systems that interact with it. The FERC-NERC standard setting process does have the ability, over time, to create a security ecosystem that makes it much harder for cyber attacks to be successful. But that process is too slow and too open to deal with threats in real time. In addition, federal law may not do enough to promote information sharing between and among government and industry. I continue to be supportive of efforts in Congress to close these gaps.

**Physical Security**

The issue of physical security has been a prominent one in recent months due to high profile attention given to physical attacks on the grid. Acts of physical destruction to portions of the electric grid have been something utilities have dealt with for years, but the Commission has recently seen the need for more formalized standards for the protection of the grid. The result has been a recently released Notice of Proposed Rulemaking that may ultimately lead to mandatory enforceable standards designed to mitigate the risk of a physical attack bringing down portions of the bulk power system. As I said earlier this month when voting to approve the NOPR, I believe these efforts are a step in the right direction, but would encourage all stakeholders to view this as just a first step in a longer term iterative process we undertake with the industry.

**Geomagnetic Disturbances**

Naturally occurring GMD is yet another threat to the grid. The Commission's newly adopted rules begin the process requiring utilities to assess the GMD risks to their systems and requiring them to then take appropriate actions to mitigate those risks.

All of these rules are a carefully crafted attempt to strike an appropriate balance: to reduce risk, but to be mindful that if the goal is to reduce every risk to zero, then we would end up with a grid that Americans could not afford. We would also violate the axiom that if everything is a priority, then nothing is a priority.

**Environmental Compliance Regulations**

In addition to the traditional and emerging reliability threats that the Commission addresses through standards development, reliability faces an additional challenge in the form of several new and proposed environmental regulations.

The Committee supplied a list of questions and my answers are attached to this testimony. I will let that stand as a starting point for any further questions you might have, but I would like to highlight just a few additional thoughts I have with regard to EPA's new proposed Clean Power Plan.

More than any regulation I have seen during the time that I have been involved in the energy sector, this EPA proposed rule has the potential to comprehensively reorder the jurisdictional relationship between the federal government and states as it relates to the regulation of public utilities and energy development.

Up until this point, utilities have been regulated through the influence of a number of governmental entities. State legislatures, governors, public utility commissions, state energy offices, state departments of environmental quality, EPA and FERC, to name some of the major players, all had a role to play. Any one entity could exert an influence on the process, but they each had their own niche.

EPA's proposed 111(d) regulations would dramatically alter these traditional lines of authority by creating a new paradigm of oversight of net carbon emission from a state. The

process that has been envisioned by EPA through its proposed rule leaves the states with many promises of flexibility but an exceptionally difficult choice.

On one hand, a state could tell EPA that it is not playing ball. That would allow a state to wash its hands of a process that it may see as unworkable or ill-advised for any number of reasons. Yet doing so carries significant risk. Presumably, EPA would then step in and craft an implementation plan of its own; but its tools may be crude, and as of yet are undefined. In short, a state has no idea what the downside risk is should they not participate in creating a state compliance plan.

On the other hand, a state could decide to go down the path of taking the EPA up on its offer of flexibility and craft its own plan or attempt to partner with other states on a regional plan. Yet this is a path that is at least as perilous; for if states agree to play by the EPA's rules, they are ceding ultimate authority of the regulation of their state's public utilities and energy development to the EPA.

What was once a relationship of interacting and cooperating entities will be one in which there is a clear senior partner. In the past, EPA authority extended to specific generating plants or groups of plants, but by a state voluntarily agreeing to seek EPA *approval* of its overall integrated regulation of the electric industry, it will have entered a comprehensive "mother-may-I?" relationship with the EPA that has never before existed.

After an implementation plan is approved by the EPA, a state will have lost its ability to chart its own course as to how it regulates public utilities and its energy sector as a whole. To use just one example, if a future legislature, decides that its renewable portfolio standard is not

working for the citizens of its state, that legislature may effectively be prevented from changing course, because its “EPA-approved” RPS will still be in full effect; and likely enforceable by either the EPA or subject to a private party lawsuit. The same would apply to any future state utility commission action to the degree it implicates an EPA approved plan. And because basically everything in the electricity sector affects carbon output in some manner, if a state “plays ball” with the EPA, the proposed rule could effectively lock a state into a comprehensive carbon integrated resource plan that can only be changed with the acquiescence of the EPA.

Moreover, given the predominant regional nature of today’s electric grid operations, implementation of the proposed rule faces practical difficulties at both ends of the spectrum. If states choose to comply with the proposed rule by taking an independent, go-at-it-alone approach, then regional grid operators will be faced with an increasingly complex task of implementing multiple compliance mechanisms into what was once an efficiently-dispatched regional electric grid. The various compliance regimes will also add complexity to bilateral contracts that cross state borders.

To take just one recent example, a few days ago, the Governor of Minnesota called for the elimination of coal as a source of electricity production. Presumably, this is the sort of thing that could be incorporated into a state compliance plan. But electricity delivered to Minnesotans is part of a regionally dispatched grid. In the context of today’s highly integrated interstate electricity grids and markets, it is hard to comprehend how any similarly situated state could attempt to make itself an island. A state can refuse to permit coal plants within its borders, but to the degree it was attempting to regulate energy produced elsewhere, it is not

permissible. Indeed, the State of Minnesota recently had a federal court nullify a state statute for violating federal law on those very grounds.

At the same time, even if all states in a region band together under the regional grid operator, any changes to the wholesale markets must necessarily be vetted and approved by FERC. The Commission would be charged with the awkward task of evaluating fundamental wholesale market design changes driven by environmental priorities approved by the EPA. Yet FERC is an economic and reliability regulator. Any decisions made by FERC must be rooted not in the Clean Air Act, but in our "just and reasonable" and "not unduly discriminatory or preferential" rate standard in the Federal Power Act. FERC's ability to alter or reject an RTO-proposed compliance mechanism would present a conflict with EPA's evaluation of the compliance plans. Absent Congress stepping in and clearly defining FERC authority and EPA authority, it is not hard to envision a future jurisdictional train wreck.

I offer these thoughts to illustrate the difficult decisions that lie ahead and to highlight for Congress just how seismic this change is. Putting aside questions this Committee has raised with regard to reliability and cost impacts of the proposed rule, I submit it could fundamentally change the very fabric of how the utility industry is regulated in the country.

Thank you for the opportunity to appear before you today, I would be happy to answer any questions you may have.

Mr. WHITFIELD. At this time, we will recognize the gentleman from New Mexico, Mr. Bay, for a 5-minute opening statement.

**STATEMENT OF THE HON. NORMAN C. BAY**

Mr. BAY. Chairman Whitfield, Ranking Member Rush, and members of the subcommittee, my name is Norman Bay, and I currently serve as the Director of the Office of Enforcement at FERC.

On July 15, it was my honor to have been confirmed by the Senate to serve as a member of the commission. I anticipate being sworn in once all the necessary arrangements have been completed. Thank you for inviting me to testify at this hearing regarding EPA's proposed Clean Power Plan and other grid reliability challenges. I look forward to working with this committee in my tenure on the commission.

One of FERC's critical responsibilities is the regulation of electric reliability. As the Director of the Office of Enforcement, I have been involved in investigations of potential reliability violations and inquiries into major reliability events, but I have not been involved in the EPA rulemaking.

While the EPA has responsibilities under the Clean Air Act and other legislation, the commission has similar and no less important responsibility to promote the reliability of the bulk power system.

One way that I believe the commission can help to ensure reliability is through open communication and a strong working relationship with the EPA; the Department of Energy; the States and NARUC; the North American Electric Reliability Corporation, or NERC; regional transmission organizations; independent system operators; and industry. It is my understanding that FERC staff, EPA, and DOE have communicated at various times regarding the EPA's power sector regulations. The agencies should continue this effort to ensure that the EPA is aware of any potential impacts its regulations may have on the reliability of the bulk power system.

To the extent necessary and appropriate, commission staff should continue its communications with EPA and industry participants subject to FERC's regulation, including RTOs and ISOs and public utilities. Once I am sworn in, I look forward to meeting with my colleagues to discuss in greater depth these issues and to examine how we can work collaboratively within the commission's authority to promote the reliability of the bulk power system.

Thank you for inviting me to testify here today. I look forward to remaining engaged with the committee and the EPA, DOE, NERC, the states and industry on these important issues.

Mr. WHITFIELD. Thank you, Mr. Bay, and thank all of you for your testimony.

[The prepared statement of Mr. Bay follows:]

**Written Testimony of Norman C. Bay  
Federal Energy Regulatory Commission**

**Before the  
Committee on Energy and Commerce  
Subcommittee on Energy and Power  
United States House of Representatives**

**Hearing on  
FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan  
and other Grid Reliability Challenges**

**July 29, 2014**

Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee:

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Electric Reliability Corporation (NERC), regional transmission organizations (RTOs), independent system operators (ISOs), and industry. It is my understanding that FERC staff, EPA, and DOE have communicated at various times regarding the EPA's power sector regulations. The agencies should continue this effort to ensure that the EPA is aware of any potential impacts its regulations may have on the reliability of the bulk-power system. To the extent necessary and appropriate, Commission staff should continue its communications with EPA and industry participants subject to FERC's regulation, including regional transmission organizations and independent transmission operators and other public utilities.

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**One-Page Summary  
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Before the U.S. House of Representatives  
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It is my understanding that FERC staff, EPA, and DOE have communicated at various times regarding the EPA's power sector regulations. The agencies should continue this effort to ensure that the EPA is aware of any potential impacts its regulations may have on the reliability of the bulk-power system. To the extent necessary and appropriate, Commission staff should continue its communications with EPA and industry participants subject to FERC's regulation, including regional transmission organizations and independent transmission operators and other public utilities.

Once I am sworn in, I look forward to meeting with my colleagues to discuss these issues and to examine how we can work collaboratively within the Commission's authority to promote the reliability of the bulk-power system.

I look forward to remaining engaged with this Committee and the EPA, DOE, NERC, the states, and industry on these important issues.

Mr. WHITFIELD. At this time, we will recognize the panel for questions, and I will recognize myself to start off for 5 minutes of questioning.

It is quite clear that anyone who has examined the Clean Power Plan views it as a fundamental change and President Obama frequently talks about Congress being obstructionist, and Mr. Norris made the comment this is necessary because Congress has failed to act. And I would point out that Congress did act by deciding not to act. When Mr. Waxman was the chairman of this committee, the Cap and Trade Bill was reported out of the House of Representatives. It went to the Senate, and the Senate did not adopt it. So Congress did act in the sense that it did not adopt the cap and trade.

One of the frustrating—and I am sure that President Obama is frustrated, and it is great that we have hearings like this to bring all of this out into the open, to have a discussion for the American people. Because one of the frustrating parts for the American people is when they see decisions affecting basic services like electricity and the impact that that has on our economy being made by the courts and by regulators, and they view that as not really being transparent.

So we in Congress, we do not intend to just lay down and let the President do whatever he wants to on climate change or any other issue without having a public discussion about it. And so CO<sub>2</sub> emissions, by the way, today are the lowest from energy sources that they have been in 20 years. Lisa Jackson even made the comment that even if we move vigorously forward as we are attempting to do here on CO<sub>2</sub> emissions, it would make no difference unless other countries do the same.

And we see in Europe today, they are mothballing natural gas plants because natural gas prices are so high coming out of Russia that they are building coal plants today. And we, under this plan, would not have the flexibility to build a new coal plant if natural gas prices go up because the technology is not available to be able to do it in an economic way that would make it possible to do it. We don't have enough money to build Kemper plants all over America the way they are attempting to do in Mississippi, and it is not being done without Federal dollars.

So this kind of discussion, I think, is invaluable. Mr. Rush had made the comment about the drought and the impact on farmers, and I would tell you, the price of corn has fallen from \$8.10 a bushel down to \$4 a bushel because corn is so abundant right now. So there are lots of different perspectives on this.

But Ms. LaFleur, everyone is concerned about reliability, and we have asked the EPA about this and we ask this question of you in our written questions: Did the EPA request a written document from FERC relating to reliability? Do you have a written report that was given to EPA on reliability issues?

Ms. LAFLEUR. Thank you for that question, Congressman Whitfield.

No, they did not request written comments. My understanding, this is the first time I have been through the interagency review, but there were a number of staff meetings and then a kind of formal debrief where we made our comments over at the OMB with

a number of EPA people there. And we kept a memo, but we did not turn them in in writing because that has not been the practice.

Mr. WHITFIELD. I personally think that is disappointing because reliability is such a key issue.

Mr. Moeller, I don't have a lot of time left, but would you just comment briefly on this economic dispatch versus environmental dispatch and how that might get to a cap and trade system?

Mr. MOELLER. Well, that is one of the four building blocks, and the building block is an aspiration to get the gas fleet up to 70 percent dispatch, which has been very rarely done in this country, only in very limited circumstances. So there are some operational questions.

But essentially, the only way, if you have to hit your target by increasing your gas fleet production, that is going to trump what is normally economic dispatch of the cheapest plant. Now, the only way you can reconcile that is then put a fee on the other sources, and it is talked about in the rule, you put a fee on the other carbon emitters so that they are less competitive to gas. So that is how it would be done.

Mr. WHITFIELD. Well, thank you. My time is expired.

At this time, I recognize Mr. Rush for 5 minutes of questions.

Mr. RUSH. Thank you, Mr. Chairman.

Mr. Chairman, the American people are tired of the finger pointing, they are tired of the excuse after excuse, the blame that goes from one to another. They are really, really tired of the inaction and the inertia that seems to be the standard of this Congress.

There is no question, Mr. Chairman, that we need to reduce our carbon pollution if we are going to avoid the worst impacts of climate change. No question about it and the power sector is the largest source of carbon pollution in the U.S. There is no question about this. Mr. Chairman, I believe that the EPA's Clean Power Plan is a reasonable approach to reducing emissions from power plants in light of the unending excuses, in light of this Congress' failure to act.

Commissioner Norris, do you agree that a Clean Power Plan is a reasonable approach since this very Congress has failed to act?

Mr. NORRIS. I think the EPA plan is, as I mentioned, the most feasible, reasonable one that they can do out of their authority, that it is workable. It would be more efficient if we would remove the uncertainty around carbon and enact a policy that would provide more certainty and more efficiency in this transition.

Mr. RUSH. Again, commissioner, how will EPA's proposed rule affect investment in renewable energy and energy efficiency resources?

Mr. NORRIS. It is a much-needed signal to both renewable energy and other technologies that can provide demand side management energy efficiency and new technologies for generation, that, I think, there is a great hunger, an appetite for investing in new clean air energy technologies. This will help spur more investment which will create more technology opportunities for us to make this an efficient transition.

Mr. RUSH. What about nuclear power? With the low price of natural gas, some nuclear power plants are struggling financially.

How could the proposed rule help keep those nuclear plants running?

Mr. NORRIS. Well, again, I think it provides a much-needed signal to the value of nuclear plants because they are noncarbon emitting. It has been a real concern of mine that we maintain our nuclear fleet because it is noncarbon emitting and a solid base load source of generation. So I think the EPA rule will assist in providing a better market, if you will, for nuclear resources.

Mr. RUSH. Yes. Again, commissioner, what do you think about whether industry and regulators can rise to the challenge and achieve the carbon reduction set out in the Clean Power Plan without sacrificing electric reliability?

Mr. NORRIS. I am sorry?

Mr. RUSH. Without sacrificing electric reliability.

Mr. NORRIS. Without jeopardizing electric reliability?

Mr. RUSH. Sacrificing.

Mr. NORRIS. Yes, I think, as I said, you are not going to prove it is or isn't going to work because it is still in development. The key thing going forward is the communication and cooperation between the EPA, FERC, NERC and all the other entities that we—everyone wants to keep the lights on, including the EPA. And so what it is going to take is just a continuous effort going forward to make sure reliability needs are addressed if and when they occur.

Mr. RUSH. Chairman LaFleur, do you agree?

Ms. LAFLEUR. I certainly agree that it is going to take an ongoing effort of communication to identify issues that specific states or regions might be having. As with all, I believe, and I testified on MATS before this committee, I said the two things you need for change are flexibility and coordination and that is even more true in this rule. We need coordination to make sure the State plans work and protect reliability.

Mr. RUSH. Commissioner Bay, what are your thoughts? Do you agree?

Mr. BAY. I think that there could be challenges.

Mr. RUSH. Turn your mike on, please.

Mr. BAY. I am sorry.

I think that there could be challenges, but I think that the challenges are manageable. I would note, for example, that with the 2005 baseline that the EPA used, there has already been a 15 percent reduction in carbon emissions from generators so that an additional 15 percent needs to be achieved over the next 16 years.

And even under the EPA proposal, it estimates that in 2030, gas-fired generation will constitute more than 30 percent of generation and coal will be more than 30 percent, as well. And with the regulatory certainty provided by the rule, I agree with Commissioner Norris that it will incent innovation. And industry is amazing when they know that there is something to be improved upon and that can result in better or more profits.

Mr. RUSH. Thank you, Mr. Chairman.

Mr. WHITFIELD. At this time, we recognize the gentleman from Texas, Mr. Barton for 5 minutes.

Mr. BARTON. Well, thank you, Mr. Chairman.

And I want to thank the commission for being here. We rarely have all the commissioners, so it is an honor to have each of you.

I was really going to rip Mr. Clark today, but since his two boys are in the audience, I am going to have to give him a pass on that. But no, not really.

I have a general question that I would like each of the commissioners to have the opportunity to answer. You don't all have to, if you don't wish to. With this new EPA carbon rule, would seem to me to be at variance with the FERC's stated responsibility to provide electricity at a reasonable cost. I don't buy the argument that you can close all these power plants and you are going to miraculously replace them with either natural gas, nuclear power or this clean coal technology which really only exists in the laboratory. It hasn't been proven in a commercial scaled-up facility yet.

So, my general question is, can the FERC have any impact to guarantee that we continue to provide electricity at a reasonable cost to the consumer if this rule goes forward?

Ms. LAFLEUR. Well, thank you, Mr. Congressman.

I do not think the rule itself is inconsistent with FERC's responsibilities. As I see it, the EPA makes environmental rules and those become the baseline within which the system is planned, and we have to make certain that within those rules the rates are done in a just and reasonable way and that we will be paying attention to that as well as paying attention to reliability.

I think all transitions cost money and so the transition to a new resource mix, whether it is because of the environment or because of anything else, to build pipelines, to build transmission is going to cost money. The long run costs are really unknown. They depend on the relative cost of the fuel, and we also don't know the long run cost of leaving climate change unattended to, which is not free. So, but we will be working to make sure that the transition costs of the pipelines, the transmission, the things we regulate are done in a reasonable way.

Mr. MOELLER. Congressman Barton, I agree with Acting Chair LaFleur about we have to react to an environmental rule. I suppose there is a possibility that EPA could put some kind of a safety valve in from an economics perspective. That is not in the rule right now, but that is a potential. Even they admit that this is going to cost consumers money and raise rates.

The question is how do we transition? And my concern is do we have the right market signals to actually allow for these types of investments, particularly in pipelines, if we are going to expand the gas fleet so much.

Mr. NORRIS. Thank you, Congressman. First of all I agree with you, there are no miracles here, but we are talking about accounting for all the costs including the external costs. I do have great faith in America's technology innovation. The costs for renewable energy are coming down dramatically in this country. Technologies for a demand site management and energy efficiency are going up dramatically in terms of their capability.

And finally, the fuel costs for renewable energy is zero. We know that is a constant going forward. That gives me great hope that we can make this transition in a very manageable way for the economy. In fact, a very positive way for the economy because of the world wide market that is out there for clean energy technologies.

Mr. CLARK. Congressman, as I indicated in my testimony, FERC has allowed costs that are legally incurred by a business to be bid into the markets themselves. So to the degree that it is just bidding in costs that are otherwise legally incurred, that may not directly implicate FERC markets from a jurisdiction standpoint.

There is potentially though one, what I referred to as a potential jurisdictional train wreck between EPA and FERC, and it would be this; if EPA through the Clean Air Act required utilities to go down the path of environmental dispatches, we've talked about, and depart from economic dispatch, that could potentially be challenging for FERC in this way.

Our authority comes not through the Clean Air Act, but through the Federal Power Act, which requires just and reasonable rates and non-discriminatory rates. We have always judged that by economic dispatch. So to depart from economic dispatch and move to something else could potentially be challenging for the Commission, I think.

Mr. BAY. Congressman Barton, I think you raised an important issue, and certainly FERC under the Federal Power Act has to do its best to help ensure that rates remain just and reasonable. I think the commission has taken some actions to examine price formation in the energy markets as well as in the capacity markets that could be very helpful in addressing the issue that you raise.

Mr. BARTON. My time is expired, Mr. Chairman.

I want to just make a statement real quickly. In 2005 the then chairman of the FERC, Chairman Keliher, complained to me that FERC didn't have the authority to enforce some of its rules, and we gave the FERC some additional authority. We changed the penalty structure.

That authority has been used in a way that many people think has not been normal due process, so I hope to work with the subcommittee in the next Congress to put in a reform package to provide more transparency and more of a balanced playing field on some of the things that, some of these investigations that FERC has been engaged in, in the last 4 or 5 years.

With that I yield back.

Mr. WHITFIELD. At this time I recognize the gentleman from California, Mr. Waxman, for 5 minutes.

Mr. WAXMAN. Thank you, Mr. Chairman.

The world's leading scientists have repeatedly confirmed that climate change is already happening. It is caused by human carbon pollution and will get much worse if we do not act. So, this is a question for all the commissioners. Do any of you believe that there is no need to act on climate change? If any of you believe there is no need to act on climate changes, raise your hand, and I will call on you. Otherwise, I have other questions.

So seeing no one jumping to that bait, it sounds like all of you believe that there is some need to deal with climate change. Just this morning the President's Council of Economic Advisors released a new report on the cost of inaction on climate change. They estimate that just one degree celsius additional warming could cost the U.S. economy \$150 billion per year. It is getting harder and harder to deny the imperative of action, and we cannot make meaningful progress on climate change without controlling carbon pollution

from our largest source, power plants. Several of you discuss in your written testimony the ongoing transition in the power sector as natural gas, renewables and energy efficiency are playing larger roles in meeting our power needs.

Chairman LaFleur, what is driving this shift?

Ms. LAFLEUR. Thank you for the question, Congressman Waxman. I actually think the biggest driver of change is the abundance of domestic natural gas. Up in New England where we have heard about the challenges of pipelines, there are coal plants that have been under attack by the environmental community for 20 years.

Mr. WAXMAN. Natural gas is a driving force.

Ms. LAFLEUR. And second is, as has been mentioned, the new renewable technologies and the technological improvements and policy support.

Mr. WAXMAN. The new renewable portfolio standards, and how about improvements in renewable technologies?

Ms. LAFLEUR. Yes.

Mr. WAXMAN. And new environmental regulations?

Ms. LAFLEUR. Yes, that is the third.

Mr. WAXMAN. So environmental standards play a role, but we would be facing a shift in the power sector even without these regulations that EPA is proposing.

Commissioner Norris, how do FERC and other involved entities such as regional transmission organizations and State public utilities commissions work to ensure reliability in our power system? Do you try to ensure that generation and transmission infrastructure remain frozen in time, or do you work to ensure that as inevitable changes occur, the impacts on reliability are addressed?

Mr. NORRIS. The states and RTOs are empowered with that responsibility now and no reason why they would not continue to be empowered with that responsibility, to choose their means, set the reserve margin and choose their means for meeting the adequate resources in the way that best fits their State and their economy. I see no reason that it change.

Mr. WAXMAN. Chairman LaFleur and Commissioner Bay, do you agree that the goal for FERC is not to stop change, but to ensure that the system responds appropriately as changes occur?

Ms. LAFLEUR. Yes, I think we have to adapt the part of the system that we regulate as new environmental regulations occur.

Mr. WAXMAN. Mr. Bay?

Mr. BAY. I agree with that as well.

Mr. WAXMAN. Now opponents of the Clean Power Plan claim that it is a complete departure from how the power sector has regulated and will threaten grid reliability.

Commissioner Norris, is this proposal a sea change from everything that has come before, or does the plan build on regulatory structures already in place and trends that are already occurring?

Mr. NORRIS. Referring to the proposed EPA plan as the change?

Mr. WAXMAN. Yes, EPA plan.

Mr. NORRIS. No. Like I said, it is a gradual transition that is already occurring. We are already not building coal plants because the science is not changing. We are already having, as Commissioner LaFleur said, the advent of gas coming that is impacting the

system, that is as a result of technology, the fracking technology, so science and technology is driving this change, not EPA.

Mr. WAXMAN. State PUCs, RTOs, and ISOs already regulate electricity markets and, along with FERC and NERC, work to assure reliability. The power sector has dealt with many environmental regulations in the past, most recently the Mercury and Air Toxic Standards, and has maintained reliability. The shift to cleaner electricity is already underway. The Clean Power Plan will accelerate these changes and may pose greater challenges, but they are challenges that we already must and will address. I would assume you agree with that, Mr. Norris?

Mr. NORRIS. Do I agree that we can maintain reliability through this transition?

Mr. WAXMAN. Yes.

Mr. NORRIS. Yes—

Mr. WAXMAN. Chairman LaFleur, and Commissioner Bay, what do you think? EPA's Clean Power Plan is eminently, in my opinion, reasonable and quite modest proposal. It provides tremendous flexibility and ample time to the states and industry to reduce carbon pollution in the least burdensome way possible.

Do you, as Commissioner Norris stated, the question is not whether we reduce carbon pollution, but how, and EPA has an answer embodied in the Clean Power Plan, and that is what they are proposing as a start. So rather than ask that as a question, I want to make that comment.

And, Mr. Chairman, one last thing. The EPA is acting under the Clean Air Act which was adopted by the Congress. They are acting under decisions by the U.S. Supreme Court. There have been five to four decisions that I have not liked, and there have been five to four decisions that you haven't liked, but Supreme Court decisions are the law of the land.

I yield back.

Mr. WHITFIELD. At this time I recognize the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTA. Well, thank you, Mr. Chairman, for today's hearing, and also to the commissioners for being with us today. It is great to have you all here before us.

And if I could, I would like to start with Commissioner Clark if I may. And what are the implications of the State energy laws and regulations if they are included as part of an EPA-approved State implementation plan to comply with the Clean Power Plan?

And I just wondered if that could tie into your testimony, where you had mentioned that when you are looking at some of the, when this relationship is occurring, that States might get into a mother-may-I relationship with the EPA that never existed before. Would that tie into that?

Mr. CLARK. Congressman, it does. The concern that I raised is I do think there is a risk that this is a rather dramatic change jurisdictionally, and States will at least need to consider it as they decide whether they are going to go down the path of a State compliance plan. The reason I say that is in the past, EPA might just be regulating emission sources either by source or a fleet, but not the entire regulatory regime in an integrated resource plan standpoint that a State might have.

So to the degree that a State goes down the path of creating effectively a carbon integrated resource plan, they will be putting into that things that have traditionally been set by State legislatures, renewable portfolio standards, building codes, energy efficiency standards, in addition to traditional sort of power plant decisions.

To the degree that then becomes blessed by EPA and submitted and approved by EPA, it is a much different jurisdictional relationship than has existed before because if a State goes back and decides maybe the RPS should be 25 percent instead of 30 percent, or maybe our State building codes should be adjusted because something isn't working, in many ways it will have lost that opportunity because it will have become a part of a Federally-approved plan and would then need to seek approval from the EPA, depending on how it is structured to—

Mr. LATTA. Let me follow up. What would that do to costs in those States, especially when you are dealing with a district like mine that has 60,000 manufacturing jobs, and is that going to drive costs up? Is there going to be less flexibility that a State could do in the future? What would happen out there?

Mr. CLARK. Congressman, again, I think it is a bit too early to tell specifically because we don't know what the compliance plans would look like or what a Federal compliance plan would look like. I would just point to the trend lines which is in those States that have moved more aggressively and have been first movers on some of these issues, the trend line has been toward an increasing electric rate environment.

Mr. LATTA. Thank you.

Chairman LaFleur, if I could turn to you, recently I have been hearing that in a number of States in competitive markets, electricity generators and electric distribution companies are seeking State public utility commission approval for the purchase power agreements or the PPAs, as a means to guarantee a contract between the power provider and the regulated utility company.

States are considering these because they are concerned about the impacts to their retail customers if those plants were to shut down. So the question is, if capacity markets were ensuring reliability and preserving essential base load capacity, then it seems that these PPAs would not be necessary. Are these actions by the State an indication of the market inadequacies out there?

Ms. LAFLEUR. Well, right now the capacity markets are under a lot of pressure because of all the changes in resource mix, and something that we are looking at very hard is how we make sure the capacity markets properly compensate all the increments that are needed for reliability, and I think that will continue to be important, but there will still be a role for the States which regulate generation within their own authority.

Mr. LATTA. Let me ask you, when you say that they might be under pressure out there, what is causing the pressure out there in the capacity markets?

Ms. LAFLEUR. I think some of the factors I already said. The first is the gas price being very low has really driven down the marginal revenues, so it is hard for some of the coal and nuclear units to recover their costs in the market and other resource changes as well.

Mr. LATTA. Thank you very much.

Mr. Moeller, if I could turn to you, in your testimony you were talking about what could be happening out there is we could have higher costs involved out there. When you look at those higher costs again when you look at the States out there like the State of Ohio that is 70 percent generated by coal right now, if you look in that crystal ball down the road, what would happen to States like Ohio for costs when you look at what is happening with the EPA right now?

Mr. MOELLER. I wouldn't want to predict how much rates would go up, but, again, even EPA admits that rates will be going up based on this rule. It would depend a lot on how they chose to come up with their State implementation plan. They could go the energy efficiency route, but that gets more and more expensive as you get more efficiency out of the system.

Transition to gas would probably be expensive because a lot of those coal units are relatively low cost. There are other ways to perhaps get there, but, again, this will result in higher rates, which I don't think is denied by anybody.

Mr. LATTA. Thank you very much.

Mr. Chairman. I see my time is expired and I yield back.

Mr. WHITFIELD. At this time I recognize the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. Well I thank the chairman for holding the hearing and the commissioners for your testimony. I congratulate Mr. Bay on your confirmation.

Mr. Moeller, you had an interesting discussion of the pipeline challenge in New England because I assume it is from return on investment concerns of investors, the pipelines wouldn't be fully utilized. What would improve that financial barrier situation?

Mr. MOELLER. Well, traditionally the pipelines have been paid for by the local distribution companies with 20 and 30 year contracts. They are the ones selling gas at retail. The new customer base is power plants, and in that market power plants don't know on a daily basis whether they are going to be called or not. They bid in. Sometimes they are taken. Sometimes they are not.

The pipes are basically full in New England. Almost everybody agrees that we need more pipe in New England, but how do you finance it under a new model? There are three proposals out there, one from the governors, one from the investor-owned utilities, and a recent one from a municipal group and we are hoping that part of this discussion can lead to a solution, but it is a concern we don't want replicated in other markets.

Mr. MCNERNEY. OK. Another question. You mentioned your concern about EPA not having the capability to do the granular analysis needed. I would assume the EPA does have that capability, so basically would you reiterate that you don't think they have that capability?

Mr. MOELLER. Well in my opinion, I don't expect them to know electric markets like we do, just like we wouldn't know the details of Clean Air Act either. That is not really their job, but that is why I think we need a more formal relationship because we have the expertise. NERC has the expertise. The people that run the mar-

kets do and it is really drilling down into some very detailed engineering analysis, and it can be done.

Mr. MCNERNEY. Well, you and other of the commissioners mentioned that you think one of the requirements for success of the rule, and I think it is cute that it is called the rule, is that you need open and transparent relationship between yourselves and the EPA and also the DOE. How can we achieve that, Chairwoman LaFleur? How can we achieve that transparency?

Ms. LAFLEUR. Well, I agree that we need an open and ongoing relationship with the EPA. I think the model that we adopted on the Mercury and Air Toxics Rule where we have regular monthly staff calls with the EPA, as well as meetings at the Commissioner level, is one we should follow here. I think we will know much more where the challenges are and what we need to do once the State implementation plans are done.

Mr. MCNERNEY. Do you need a higher authority to make that transparency happen?

Ms. LAFLEUR. Well, I always love more authority, but I think we have the ability to be transparent within our existing jurisdiction.

Mr. MCNERNEY. Mr. Waxman established that each of you feel there is a need for reduce carbon emissions. What do each of you feel, briefly if you would, would be the most efficient way to achieve that, the rule or some other method?

Ms. LAFLEUR. Well, I agree with Commissioner Norris that from the standpoint of reducing a pollutant most effectively, a nationwide cap and trade or some sort of nationwide system would probably be the most efficient. Given the structure of the Clean Air Act that we have, I think the EPA did a good job building in flexibility to use the authority they have.

Mr. MCNERNEY. Mr. Moeller?

Mr. MOELLER. Well, because carbon is ubiquitous in its concentration throughout the world, we have got to solve this on a worldwide basis, and I really think we should do it through market forces. As I mentioned in my testimony, getting prices more accurate at the wholesale and retail level throughout the world. Energy is subsidized I think a trillion dollars a year. Those are the kind of things that if we send the right pricing signals, people will use their energy more efficiently.

Mr. MCNERNEY. OK. Thank you.

Mr. NORRIS. Thanks. I partially agree with Mr. Moeller. Sending the right price signal is right, but you have got to get the external cost in that price. I think the most efficient way to do that personally is a carbon tax. I am not opposed to a cap and trade, but it takes a lot more pages for you all to write, and a carbon tax would be a lot simpler.

Mr. MCNERNEY. Thank you.

Mr. Clark?

Mr. CLARK. Congressman, from my standpoint, research and development is really the key in future energy technologies, and I am a supporter of government-supported research and development into those new technologies, the idea being that if new sources of energy can be developed in a way that no Nation or no developer would want to do anything but because it is both the cleanest and the most cost effective, then that solves both answers for you, and

you don't have to worry about as much government intervention into the markets themselves because on its own—

Mr. MCNERNEY. So that would take Federal or some higher source of funding for that research?

Mr. CLARK. There can be all sorts of ways of developing those research dollars, yes.

Mr. MCNERNEY. Mr. Bay?

Mr. BAY. At this point 14 seconds or less, I would say innovation. I would say research and development. And I would say markets.

Mr. WHITFIELD. We are always willing to talk about those issues.

At this time I recognize the gentleman from Texas, Mr. Olson, for 5 minutes.

Mr. OLSON. I thank the chair, and welcome to our witnesses. A special welcome to you, Dr. Bay, as our next chairman. Welcome.

As you all know, our grid faces many challenges. You have to coordinate gas with electric power, and sometimes that can be difficult. Wind is plentiful but not at times when we need it, at times we don't need it. Subsidies distort the market and help shutter nuclear power plants, reliable nuclear power plants, And, as we have heard today, EPA adds to those challenges.

My first question is for the entire panel. In the Mercury Rule, the EPA included a way to pause the rule if reliability is threatened. It is called, as you all know, a relief valve. As you all know, too, most of America's grid is run by impartial groups called ISOs. Now, the ISOs are asking EPA to include a reliability relief valve in the carbon rule. Yes or no, do you all agree that this could be a valuable part of the final rule?

Commissioner LaFleur.

Ms. LAFLEUR. I don't think it could be designed by the reliability safety valve in MATS, but I think there should be a way to consider reliability as a last resort if there is an issue.

Mr. MOELLER. I think some kind of a safety value would be very helpful.

Mr. OLSON. Commissioner Norris?

Mr. NORRIS. I apologize. I was not very clear on capturing the question, but if it is a safety valve, I am for safety valves.

Mr. OLSON. Yes. Safety valves, there is one for reliability. And so they want something for a reliability rule in the Carbon rule, some sort of safety valve. It is out there for the ISOs. ISOs want to make sure they have that thing. It is part of the Mercury rule. It has been done with mercury. They just want to make sure that, hey, that is a good idea. Can we have that as well, just a safety valve for reliability as opposed to mercury.

Mr. NORRIS. Reliability is paramount, and we should do whatever we can to maintain reliability but not use a safety valve to empower people to push back what they are trying to achieve.

Mr. OLSON. Commissioner Clark?

Mr. CLARK. Congressman, yes, and I think it needs to be one that is done by an independent third party so that they can have greater visibility into the entire grid itself so as the State and regional plans are stitched together, someone independently is able to look at how they all work together and whether it will impact reliability.

Mr. OLSON. Mr. Bay?

Mr. BAY. Congressman Olson, I certainly think it is an idea worth considering.

Mr. OLSON. OK, thank you.

My second question is for you, Commissioner Moeller. When power plants close we focus on the number of megawatts lost, but large power plants like coal and natural gas just don't provide bulk power. They also protect the grid with what is called ancillary services.

Unlike wind and solar, they can ramp up or ramp down immediately if needed. They can keep their power balanced at 60 hertz, right there 60 hertz, not 59.99 or 60.001. It is more important than reliability having that power, it is having the right power. And so my question is, are these EPA rules closing down the most important kinds of power on the grid, ones driven by coal and natural gas?

Mr. MOELLER. Well, it is very location-specific, Congressman. I can think of a big power plant in Montana that provides voltage support, a lot of power. If you were to take that out of the grid, it would have big impacts on the rest of the northwest system, and I am sure that that is the case in low pockets throughout the country.

And that is why I think drilling down into the granular nature of the reliability of closing plants is necessary, and we can take EPA's chart. They have projected which plants are going to be shut down, so the reliability study shouldn't be that difficult.

Mr. OLSON. Yes, so one further question. As EPA's second pillar of the carbon rules calls for a massive increase in power from natural gas, but they don't seem to realize that coordinating natural gas and electric power is a very delicate balance, and even worse now, the environmental groups are attacking FERC Using Greenhouse Gas Rule to try to turn around and stop FERC from approving natural gas pipelines. You can't have natural gas without the pipelines.

And so my question is, do you think EPA understands how difficult some of these assumptions are? Are they realistic?

That is for you, Mr. Moeller.

Mr. MOELLER. I don't think they fully appreciate the challenges we have with getting more pipeline infrastructure. At least I haven't sensed that they do, because as I noted in my testimony, this set of new consumers of pipelines as power plants, not the traditional ones, local distribution companies that have provided the financing through long-term contracts, and we have got to address that and solve that issue or else the assumptions on pipeline expansion, I think, will be faulty.

Mr. OLSON. My time I yield back. Thank you.

Mr. WHITFIELD. At this time I recognize the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman.

I want to thank our commissioners, both new and old, for testifying today.

Reliability of transmission electricity is the backbone of our economy. Our industrial, commercial, and residential customers never need to question whether the power they need will be delivered when they need it. It is FERC's responsibility to maintain the reli-

ability of the grid and FERC has quite a few other responsibilities, including pipelines, LNG facilities, and oil pipeline rates, to name a few.

Chair LaFleur, in your testimony you gave EPA's Mercury and Air Toxic Standards, or MATS, you state that EPA sought the advice of FERC upon the issuance. You stated that FERC issued a policy statement on potential violations MATS may induce based on FERC's reliability standard. Did the EPA respond to that, to FERC, and what you submitted?

Ms. LAFLEUR. Yes, Congressman Green. The EPA, in fact, we based our policy statement on a policy guidance memo they put out that indicated that power plants could seek a fifth year to comply with the advice of FERC and other reliability experts. Thus far we are just in the fourth year, so we haven't had any fifth year applications, but we anticipate a few.

Mr. GREEN. Well, Congressman Olson and I actually have passed a bill through the House that doesn't deal with FERC but deals with EPA and the Department of Energy, H.R. 271, that deals with the conflict that exists between EPA and the Department of Energy. That bill passed the House, and it may emerge sometime in a different form over in the Senate, but it also puts reliability as the most important.

Because again, I am from Texas, and Houston right now where it was 99 degrees when I left last week, and so reliability is important for our air conditioning to run in the summer just like it is for heating in the north in the winter.

Given the increasing complexity of EPA's regulations, does FERC anticipate additional conflicts with reliability?

Ms. LAFLEUR. I believe it is our responsibility to make sure that reliability is sustained. I think we will know much more when we see the different State plans, but there will undoubtedly be issues to work through as we work through the transformation, that is what we will do.

Mr. GREEN. You also discussed EPA's proposal and gas pipeline adequacy in your testimony, stating FERC emphasized capacity factors and existing constraints. Do you believe EPA adequately incorporated FERC's input?

Ms. LAFLEUR. I think EPA referenced in the rule the considerable need for new pipeline capacity to facilitate the Clean Power Plan, but it is going to be up to us to help get that pipeline capacity in the ground.

Mr. GREEN. OK. Do you anticipate FERC's handling increased permitting requests for natural gas pipelines if States choose the EPA's regional policy option, which since FERC is a national agency.

Ms. LAFLEUR. I think our pipeline work will continue to grow for a number of reasons, yes.

Mr. GREEN. OK.

Director Bay, until you are at least sworn in, as Director of Enforcement in your office and responsible for violations and inquiries in market manipulation, however unlike other Federal agencies, FERC does not have an office of compliance or any other resource or regulated community to address questions and concerns. Mr. Bay, do you believe that the office of compliance would benefit the

regulating community, someone to just call and say we are looking at this option before it ends up in enforcement action?

Mr. BAY. We actually tried to do that, Congressman Green. There is a no action letter process whereby an entity can submit its question to FERC for consideration by staff on whether or not there would be a violation if the entity engages in a certain form of conduct.

In addition, we have a help line that is staffed to answer questions from the regulated community. And certainly we are often speakers at conferences in which we—

Mr. GREEN. OK. I only have about 40 seconds left, but I am concerned that maybe we could use some more transparency on the enforcement and maybe an additional office of compliance.

Let me get to my last question. Mr. Clark, EPA's rule seems to assume transmission grade will not require much, if any, changes as a result of retirements, decreased margins, or renewable sources whether they be large or small. In different regions of the country, what entities are responsible for building and maintaining new and existing transmission, and what challenges are they going to face under this new EPA model?

Mr. CLARK. Congressman, there can be different entities in different parts of the country, either incumbent utilities or competitive utilities that are attempting to get into the transition business. Who plans that and makes the calls differs substantially in different parts of the country, and in more regulated, less restructured regions of the country, like the southeast and most of the west, it tends to be still traditional monopoly and vertically integrated utility companies regulated by States. In more market regions of the country, it tends to be probably an ISO or an RTO.

Mr. GREEN. OK.

Thank you, Mr. Chairman. I know I have run out of time.

Mr. WHITFIELD. At this time the chair recognizes the gentleman from Virginia, Mr. Griffith, for 5 minutes.

Mr. GRIFFITH. Thank you, Mr. Chair.

Ms. LaFleur, if I understood your testimony earlier, and I wrote down part of it but I don't want to put words in your mouth, given the structure of the Clean Air Act that we have, the EPA I think you said did a good job or something similar to that. I got it to that point and then I couldn't write fast enough. Is that an accurate statement of your opinion?

Ms. LAFLEUR. That is basically what I said. The question was what's the most efficient way to regulate carbon, and given the authority they have—

Mr. GRIFFITH. Yes, ma'am. That wasn't my question. My question is, is that a statement of your opinion that the structure of the Clean Air Act that we have, under the structure that we currently have, the EPA did a good job in coming up with these regulations?

Ms. LAFLEUR. Yes.

Mr. GRIFFITH. And so then I would ask you to reconcile for me when you take a look at Section 111 of the Clean Air Act where in Section D it says, the Administration shall prescribe regulations which shall establish a procedure under which each State shall submit to the administrator a plan which establishes standards of performance for the existing source for any air pollution for which

air quality criteria have not been issued or which is not included on a list published under Section 108 A, and the critical part, or emitted from a source category which is regulated under Section 112 or 112 B.

And how do you reconcile that with the fact that electric generation units are currently regulated under 112, and therefore the EPA does not appear to have authority under the Clean Air Act to propose the regulations which they have enacted, and what they are relying on is a scrivener's error that took place in the redraft in, I believe, 1990, but in a case which I would cite for you all to go back and look at with your lawyers, in a case *New Jersey v. EPA* 517 F.3d 574, 2008, it appears that the EPA acknowledged that they didn't have this authority.

And the court ruled accordingly in view of the plain text in structure of Section 112, we grant the petitions and vacate the delisting rule, which was a previous lawsuit. This requires vacation of camera regulations of both new and existing EGUs, electric generation units. EPA promulgated the camera regulations for existing EGUs under Section 111(d), but under EPA's own interpretation of the Section, it cannot be used to regulate sources listed under Section 112.

So it is not just my reading, but apparently the EPA in a court case made that same reading, and the EPA thus concedes that if EGUs remained listed under Section 112, as we hold they do, then camera regulations for existing sources must fail. So it would appear that the EPA is reaching way out, and under the existing law I would submit they don't have the authority and that they are asking for litigation.

Doesn't that make your job harder in trying to figure out where you are going to go when the EPA is stretching the law so far that they disagree currently with the decision of the court that they conceded was the correct reading of the law as late as 2008? Yes or no.

Ms. LAFLEUR. The legality will be decided by the courts, but we are going to do our job to try to keep the lights on in the meantime.

Mr. GRIFFITH. And I appreciate that you all are going to try to keep the lights on, and that brings us to this whole pipeline issue and I worry about the EPA and folks filing lawsuits on trying to lay down new pipeline to get it to the power sources, and all of a sudden we have EPA regulations coming in and saying to us, wait a minute, wait a minute, you can't put the pipeline there, or we have lawsuits that last longer.

And, Mr. Norris, you said earlier you were confident in the American innovations and so forth, and I am too. The problem is the EPA apparently is so confident they believe that we can get it done in 2 years. We know from the Department of Energy, and I sometimes wish that all of you all would sit down and talk on a regular basis. The Department of Energy has told us the new clean coal technology will not be available for approximately 10 years even if what we are working on now works, and I think there are some really exciting things. I love chemical looping, but we are looking at 10 years. I think with some money we might be able to shorten it to 7 years.

But under these proposed regulations, assuming that they go into effect, the States have to come up with their plan. Even though they have 10 years to hit their target, their plan has to be completed with one year. That doesn't seem very reasonable to me. Do you believe that States really can come up with a plan not knowing where the pipelines are going to be, not knowing what technology is going to be available that can hit all of these very rigorous standards, come up with the plan now for 10 years later? Yes or no. Thank you.

Mr. MOELLER. I do.

Mr. GRIFFITH. Thank you. You do.

Well, we only have 5 minutes, so I got to hurry to get it all in. I got more than I can handle here.

Somebody said earlier it is not the EPA regulations that are putting the coal power plants out of business; it is the price of natural gas. The problem is that coal and natural gas compete about even at \$4 a unit, and for most of this year, it is true in the last week or so it has dropped back down under \$4, but for most of 2014, the natural gas price has been over \$4.

And so if it is not the price, I would submit to you all it must be EPA regulations which are in fact killing jobs across this country, and we are doing it at a time when this country can't afford it. The people in my district can't afford it. The consumers are the families of middle class America. We are the ones being hurt. It is great to have all these lofty ideas, but I don't see it working, and I fear that we are going to have rolling brownouts in the future, and I fear that you all are going to have a really tough job because of these EPA regulations.

And with that, Mr. Chairman, I see my time is up, and I yield back.

Mr. WHITFIELD. At this time I recognize the gentlelady from California, Ms. Capps, for 5 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman, and to all of the commissioners, thank you for your testimony today.

Despite what some have argued, it is clear to me that EPA engaged in unprecedented outreach in developing its Clean Power Plan. EPA met with public utility commissioners, grid operators, and utilities of all types among many others.

Chairwoman LaFleur, to emphasize it for the record, I would like to ask you about EPA's outreach to you and to FERC staff. In your written response to questions posed by the majority, you indicated that FERC staff met with EPA staff on several occasions while the proposal was being developed. Is that correct?

Ms. LAFLEUR. Yes, it is, Congresswoman Capps.

Mrs. CAPPS. And during these conversations, did FERC have an opportunity to flag issues that you all believed that EPA should be considering while developing their proposal?

Ms. LAFLEUR. Yes.

Mrs. CAPPS. Thank you.

As far as you know, did anyone at FERC tell EPA that the proposal would significantly undermine reliability?

Ms. LAFLEUR. That was not the sum of our advice. As I said in my testimony, our staff really emphasized that the pipeline and

transmissions would need to be there to facilitate the plan, that that was a key driver as well as a need for regional cooperation.

Mrs. CAPPS. Thank you.

Another topic. One of the written questions from the majority asked whether FERC prepared the resource adequacy and reliability analysis that EPA released with the proposed rule. Would FERC normally prepare the supporting documents for another agency's rulemaking?

Ms. LAFLEUR. Not to my knowledge. I think that was prepared at EPA.

Mrs. CAPPS. So there is nothing unusual about EPA conducting its own supporting technical analysis for a proposed rule?

Ms. LAFLEUR. I honestly don't know what their normal practice is, but they did not come to us for that.

Mrs. CAPPS. Thank you.

And again moving on, we have heard arguments that FERC should immediately complete an independent reliability assessment of EPA's proposal. Chairwoman, in your testimony you indicated you don't think it makes sense for FERC to prepare such an analysis at this time. Why is that?

Ms. LAFLEUR. First of all, the rule is just in draft, but even if the rule were final, the way it is structured, there is 49 different States, have to come up with plans using four different building blocks, and some of them will do it on a State level, some regional, so there would be so many combinations and permutations we would need to go through, I think it would be more productive for us to focus on doing our jobs of getting the infrastructure built and then zero in if there are issues in a State.

Mrs. CAPPS. Thank you.

Again moving on, our power sector is already transitioning towards energy efficiency and renewable energy, and EPA's Clean Power Plan will accelerate that transition. That is my summary of it. If regulators in industry do the necessary planning and maintain focus on implementing the Rules targets, is this transition manageable, and can you elaborate on that a bit?

Ms. LAFLEUR. I think on balance it should be manageable. As I said, I think there is a lot of infrastructure we need to get built, and we need to have a process if there are specific issues. But from what I hear, many of the States are already well situated.

Mrs. CAPPS. Thank you.

You know, Mr. Chairman, I think it is clear that EPA sought and received FERC's input on the development of the Clean Power Plan, and that EPA will certainly continue to seek FERC's input as it finalizes the rule as it moves from the draft into the final rule stage. EPA's Clean Power Plan is a critical step to reducing carbon emissions and combatting climate change, and I hope we can all work together in the various agencies and Congress to ensure that these rules are as strong and as effective as possible.

And I know I have a minute left, but I am prepared to yield back.

Mr. WHITFIELD. Gentlelady yields back.

At this time I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Again, welcome. We are actually glad to have you here, and I missed some of the impassioned questions, but the reality is there are people in coal countries of this nation that since this Administration was elected there has been a war on coal.

And I always refer people to President Obama's then meeting with the editorial board of the San Francisco Chronicle in 2008 when he said, I am just going to make it so costly to use coal, that they will move out of the market and I think we are living in that world. Your job is living in that world, how do we keep the lights on.

And I also would hope that your job would be trying to make sure there is enough base load and that we have competitive prices because if prices go up, then the whole economy is challenged by that. But the passion is sincere for those people who live in coal country and have the majority of their generation from coal-fired power plants.

Now I am from Illinois, so we have a big nuclear portfolio, too. We are fortunate in that, but I would say nuclear power is challenged today also.

So, Chairwoman LaFleur, I filed this question, and in your statement you talked about the FERC staff working on the operational grid, pipeline, transmission, regional cooperation, and I understand the work that commission staff has done, but I was intrigued by Commissioner Moeller's statement when he talked about requesting a more formal role.

Commissioner Moeller, can you explain to me what that means, and maybe that might address some of these questions about how much time, who is reviewing, who is making decisions. And what do you mean by a more formal role?

Mr. MOELLER. Well Congressman, as Acting Chair LaFleur mentioned there were meeting between FERC staff and EPA, but it is kind of up to whoever heads the agency as to whether that information is going to be disseminated.

Now, to her credit, she did. But I like these issues. They may not be very glamorous, but they are very important in terms of the reliability implications of transitioning this fleet in a very short amount of time.

And so I don't want to endorse staff meetings and paperless meetings. I would prefer a more formal open, transparent process, where frankly we can get engineering expertise which will often probably disagree among themselves as to the reliability implications, and I don't think it is that hard because EPA even gave us the list of power plants that they project to shut down. So the information is out there, courtesy of EPA.

Mr. SHIMKUS. So in that statement, and not trying to sow discord, but it is your opinion that there hasn't been an open, transparent system?

Mr. MOELLER. I was never invited by EPA to either review the proposal or comment on it. It was done strictly—

Mr. SHIMKUS. Let me ask to all the commissioners here and the acting Commissioner, was anybody else invited to any of these meetings with the EPA? Obviously the commission, the staff is yours, but—

Ms. LAFLEUR. There are two different things going on. In the interagency review process, we were under strict confidentiality requirements about Xeroxing and releasing information, although I did offer the excerpts to all of my commissioner colleagues. Now that the rule is out, we can have all the open meetings we want.

Mr. SHIMKUS. And I only have a minute left. So I know Commissioner Moeller, you weren't. Commissioner Norris, were you involved in any of this prior?

Mr. NORRIS. Well, I was involved—

Mr. SHIMKUS. Or Commissioner Clark?

Mr. CLARK. No.

Mr. SHIMKUS. Commissioner—you weren't around yet. So welcome, I guess I should say.

And I will just end on this, again we appreciate it. You all know where we stand. I talk to a lot of people in the generating sector, and I was involved with public policy that moved us to competitive generating facilities instead of a, in regulated markets. I think there is now a question under this new regime of is it better for reliability, do you go back to regulated markets? How are merchant facilities going to survive?

Commissioner Clark, you are shaking your head. Do you want to comment real quick, and then I will end on that, Mr. Chairman. Thank you.

Mr. CLARK. Congressman, you raise an intriguing point, and one that I have thought of from time to time, which is there is the potential in some restructured markets to have, to the degree that you are requiring a State-led basically integrated resource plan to be put on top of the market construct, that it is a form of almost soft re-regulation in some of those markets that had traditionally been trending in a much different way in a restructured environment.

Mr. WHITFIELD. At this time, I recognize the gentleman from Pennsylvania, Mr. Doyle, for 5 minutes.

Mr. DOYLE. I thank my friend.

Commissioners, thank you and welcome. You have provided a great deal of insight and thought, and your responses to the majority's written questions were certainly exhaustive.

We are embarking on a fundamental shift in our energy sector, and I share the goal of reducing emissions of greenhouse gases that are contributing to climate change, but we have to do it in a way that is prudent. Traditional energy sources, nuclear, coal, they are still going to play a critical role in ensuring reliability, and as we move forward toward supporting cleaner types of energy, we have to make sure we have the capability and the infrastructure to support them. The most recent proposed rule from the EPA on existing power plants is going to force a sectorship with a fairly expedited time frame, and the impact is real, particularly in my home State of Pennsylvania. So I appreciate your time today as we continue this critical conversation.

Chairwoman LaFleur, let me ask you, as you know, the 111(d) proposed rule includes both binding interim goals beginning in 2020 and final compliance goal in 2030. Now, if there is no hiccups or delays or extensions, many States will have their completed plans in place by hopefully 2017.

By 2020, my State, Pennsylvania, will have to reduce its carbon emissions from the 2012 baseline by 28 percent. That is just 3 years to make a 28 percent reduction. This will require swift action from utility planners, rather than long-term planning that could ease reliability concerns.

My question is by keeping the 2030 compliance goal in place but allowing States to determine the appropriate interim glide path, could EPA achieve the same carbon reduction goals while providing utility planners the necessary timeline to avoid reliability impacts and unnecessary stranded assets, and is this an approach that FERC would support?

Ms. LAFLEUR. I would want to think more about that, Congressman, and perhaps take it as a question for the record. It is not something that we discussed with EPA during the process. I do think that your State is well served—Pennsylvania has the advantage of being well served with gas pipelines and also being close to a region that—being in a regional transmission organization where there might be regional solutions that would both afford more time and more options to the State; but, of course, it is not up to me to make their plan.

Mr. DOYLE. Let me ask all of the commissioners. A recent Brattle study noted that looking at forward market prices and recent 5-year cost trends, about half of merchant nuclear plants are not profitable. This is not a future problem. This is a problem that is staring at us right now today.

What happens to reliability if nuclear plants retire, especially when you factor in the number of coal plants shutting down because of EPA's MATS rule and the fact that the remaining base load coal fleet is under the same market pressures as nuclear? It seems to me that this is a real problem today long before the rule could impact the grid. What are the RTOs doing, particularly PJM in my area, to address this problem today?

Ms. LAFLEUR. Well I think it would be a problem if we lost our nuclear fleet. It is a very important part of our fleet. PJM, as well as FERC, are looking at both the capacity markets to make sure they properly compensate the reliability contribution of base load plant, as well as Commissioner Moeller referred to we are looking at price formation in the energy markets to make sure that those plants are getting fair market prices to support them.

Mr. DOYLE. Would any other of the commissioners like to make a comment on that?

Mr. MOELLER. Congressman, your specific question about what happens if we lose the fleet, the entire fleet would be devastating because it is so important to our grid. Individual plants, it really depends on the load pocket involved, and I know that New England is struggling with the closure of Vermont Yankee, and there are lots of ramifications of that.

But as Acting Chair LaFleur noted, both the RTOs and as a commission, we are looking at ways to better compensate the reliability implications of on-site fuel and trying to get the prices right in the price formation effort, which will better compensate those units.

Mr. DOYLE. I am trying to understand when EPA says that the rule will preserve at-risk nuclear plants, how exactly does that

work? I mean how will they preserve at-risk nuclear plants, and how soon does that happen?

Mr. CLARK. Congressman, I share your concern. I think the answer is easier in certain regions of the country than others. If you come from a region that still happens to be a State-regulated monopoly, vertically integrated utility environment, it is probably less of a concern in that those public utility commissions can build in some of the those base costs into base rates.

In market regions of the country though, you are exactly right. We are struggling with that issue where there doesn't seem to be enough revenue from the market to support some of these, what I think most people acknowledge are very important nuclear plants.

Mr. DOYLE. Thank you.

I see my time is up. Thank you, Mr. Chairman.

Mr. WHITFIELD. Thank you.

At this time I recognize the gentleman from Texas, Mr. Burgess, for 5 minutes.

Mr. BURGESS. Thank you, Mr. Chairman. Welcome to our commissioners. We are really so grateful you spent the time with us.

Mr. Moeller, let me ask you a question because you caught my attention in your opening statement and of course you were talking about the commission has a responsibility to promote the reliability of the Nation's bulk power system, and then you specifically referenced heating and cooling. We talk a lot in this committee about public health concerns, about things. I mean, that is a major one, isn't it? We forget about, I mean, everyone understands that there can be cold-related deaths, but heat-related deaths actually can be more significant, at least in my experience.

Mr. MOELLER. Absolutely. We talk about the lights staying on, which is great, but it is really heating and cooling that keeps people alive during extreme weather events, and particularly in your State, it gets mighty hot.

Mr. BURGESS. Well, and even in States where it is not. I mean, we saw in France in 2003, when I forget the number, but I think it was in excess of 10,000 deaths during a heat wave that they had in France that they were unprepared to deal with, so it can be substantial. The effects on public health can be substantial.

You know, I think you point out in your testimony that the Federal Power Act restricts the duties of the commission, the authority to regulate interstate electricity transmission, wholesale electricity prices, and leaves the questions of electricity generation and intrastate distribution to the States, but with the proposed Clean Power Plan, this separation seems to be changed and puts the EPA in control of intrastate electricity matters.

Is that concerning to you as commissioner of the FERC that the EPA is claiming authority through really the regulatory process that Congress did not grant to you as a commission through statute?

Mr. MOELLER. I think Commissioner Clark may want to elaborate more specifically to that point. But, I try to point out the fact that these are interstate markets, and if you impose a State-by-State enforcement solution, that is very challenging, particularly when you have States that, for instance, Idaho, that consumes a lot of coal-generated power but doesn't actually produce any within

their State. The baseline how it works now going forward, very challenging.

Mr. BURGESS. Commissioner Clark?

Mr. CLARK. Sure. I would just reiterate what appeared in my presubmitted testimony, which is, just that this is a big change potentially as States enter into these compliance plans wherein they may be putting into the compliance plans all sorts of integrated resource planning type mechanisms like renewable portfolio standards and efficiency codes, as well as decisions that their State public utility commission is making and then seeking approval of those from the EPA.

To the degree that they later try to change that, depending on how inflexibly that is written in their particular compliance plan, it could cause issues where they later need to go and seek approval from the EPA, or if they depart from that, subject some entity in their State, either a generator, the State itself, to either an EPA complaint in enforceability, or even private citizens lawsuits against the plan that they have locked themselves into. So it is a jurisdictional issue that I think States will need to think about as they work through this process if the rule is upheld.

Mr. BURGESS. They need to think about it, but it also strikes me that they may not have, I don't know. Are they going to have the protections that they need in order to do their job.

I just have to say as a father and a grandfather, I admire the forbearance of your sons to hang with you through this. I don't know what you promised them, but I suspect it must be substantial.

Mr. CLARK. Thank you. I have a 7-year-old that is at home that we didn't risk this with.

Mr. BURGESS. So noted.

Let me just ask you a question on, the reductions in actual capacity, the EPA seems to assume a reduction based on efficiency measures.

The EPA really cannot force citizens, though, on their purchase of electricity or power, so how can the EPA rely upon reductions in usage based upon efficiency without the ability to mandate how much power is consumed or not consumed?

Mr. CLARK. Congressman, I think what is envisioned by the EPA's plan is that that is the sort of thing that would go into a State compliance plan. It does raise the question about, in my mind, who would be the entity that EPA would then enforce that standard against?

An energy efficiency measure is not like a power plant that EPA can go in and specifically tell to ramp down or up. If there is something that is not being met in the State energy efficiency goal, who would be the compliance entity that is targeted? Would it be the State itself, the installers of the energy efficiency? I just struggle a little bit to understand in the context of the Clean Air Act exactly how that would be enforced, but I appreciate the question.

Mr. BURGESS. And I appreciate the very provocative answer in the form of a question.

Thank you, Mr. Chairman. I will yield back.

Mr. WHITFIELD. At this time the chair recognizes the gentleman from Georgia, Mr. Barrow, for 5 minutes.

Mr. BARROW. Thank you, Mr. Chairman. I want to talk about something we haven't talked about much today. To fully develop and deploy renewable energy in some remote areas is going to require infrastructure upgrades to get that energy from where it can be generated to where it is going to be needed.

And I know until 2011, the rule was pretty set. Infrastructure upgrades had to be paid for by those who were going to benefit from them. There was a direct benefit test. Back in 2011, you all released a regulation, it is called Order 1000, that basically proposes to broaden, to reallocate the cost of infrastructure upgrades to allow for the greater development of renewables in remote locations by spreading it across a broader base, including folks who won't benefit from it, won't consume the energy that is being produced.

Now, personally I am all for them paying the cost who get benefits, myself. But I want to ask each of you all, and direct this question to each of you in turn, what do you say to folks who are skeptical about spreading the cost of infrastructure upgrades beyond the base of those who are going to benefit directly from it?

Ms. LAFLEUR. Well, Order 1000 preserved the principle that those who benefit are the ones who should pay for transmission. But it suggested a new type of benefit beyond reliability, which is well understood and why you build transmission. Economic benefits of reducing congestion, getting a cheaper power by building transmission.

And the third was enabling States to comply with State laws such as buying renewables, so the premise of the rule is that if a State passes a law requiring extra set renewables, then the transmission to facilitate compliance with that law does benefit that State. So it is a different type of benefit but still one that we believe the people who receive the benefit should pay.

Mr. BARROW. Commissioner LaFleur, am I correct in understanding, then, that a State like Georgia, which does not mandate the purchase of renewables in a certain quantity would not in any way be required to subsidize or contribute to the cost of upgrades elsewhere in order to provide for the—

Ms. LAFLEUR. That is correct. Georgia would be part of a region, there is a southeastern regional planning and only Federal, State and local enacted laws and regulations would be public policy requirements around which transmission had to be built. So if Georgia had no renewable requirement, they wouldn't have to build for renewable requirement.

Mr. BARROW. How about you, Commissioner Moeller, do you agree?

Ms. LAFLEUR. Excuse me?

Mr. BARROW. How about you, Commissioner Moeller, do you agree?

Mr. MOELLER. There are parts of Order 1,000 I supported, parts that I wasn't supportive of—it is in the courts now. But generally speaking, the concept of beneficiary pays is one that we try to embrace. The challenge with these assets is that they are often 30-, 40- or 50-year assets and the power flows change and so who is paying for them now, other entities can benefit. So there is some

art and there is some science in cost allocation. It is difficult, but most importantly, we want to get it built.

Mr. BARROW. Commissioner Norris, do you think those who pay bills—

Mr. NORRIS. Yes, the board supports the principle beneficiary pays, and I agree with both the previous commissioners. This is not an exact science. But you get reliability benefits, you get economic benefits, and you get the access to renewable energy where it shows and by that plan. I would just add to what Commissioner LaFleur said is that the public policy only requires that that be considered in the regional plan. It does not require that that be a part of the plan. It only enables public policy considerations to be a part of the process but does not require them to be in the plan.

Mr. BARROW. And what does that mean for folks who are served by companies that don't—

Mr. NORRIS. That means the regional planning process has to have in their planning process, a mechanism in which public policy laws or requirements get on the table for consideration. It doesn't require that they be adopted in the plan, only that there is a process by which they get considered.

Mr. BARROW. Commissioner Clark?

Mr. CLARK. I would agree that the concept of beneficiary pays is a sound one. There have been a number of cases, Order 1,000, which I, too, have agreed with parts and disagreed with parts, but also specific cost allocation cases that have been taken to court, some of which I have agreed with, some of which I have not.

I think the courts are beginning to hem in the Commission in terms of what is considered within bounds and what is considered without, outside of the lines. In a recent MISO case, it determined that the Commission had made a sound judgment in terms of beneficiary pays and I thought the court was right. In the case of a recent PJM case; the Commission had decided it was outside of the bounds and had not tied down that beneficiary pays analysis enough, and I agreed with the court in that case, as well.

Mr. BARROW. Commissioner Bay, last word.

Mr. BAY. The only thing I would add is that the 7th Circuit has said that the cost must be roughly commensurate with the benefits, and the commission has adopted that principle, as well in Order 1,000, and also has said that if you don't benefit, you don't pay.

Mr. BARROW. Thank you.

My time is up.

Mr. WHITFIELD. Time has expired.

At this time, recognize the gentleman from Pennsylvania, Mr. Pitts, for 5 minutes.

Mr. PITTS. Thank you, Mr. Chairman.

The Administration's Clean Power Plan that we are reviewing here today provides four emission reduction strategies, fuel switching from coal to natural gas is a potential component of two of these strategies.

One advises the coal firing of coal plants with natural gas or outright conversion to natural gas firing; the other involves increasing the dispatch rate for natural gas combined cycle power generation units. Pipeline companies are expanding their infrastructure to meet demands for clean burning natural gas, and in Lancaster

County, which I represent, there is a proposal for a new line that would run through most or some of the most pristine farmland in the Nation.

Chairman LaFleur, I have two questions relating to this. Since many other communities will see similar projects in the coming years, what procedures do you have in place to make sure environmental concerns and the rights of property owners are given full consideration when reviewing these proposed routes for pipelines? And secondly, do you believe the Clean Power Plan would lead to a proliferation of new pipelines across the country?

Ms. LAFLEUR. Well, thank you for the question, Mr. Congressman.

The way our pipeline approval process works, we do a complete review of the environmental safety and community aspects, which includes scoping meetings, opportunities for public comment, open houses in communities around the pipelines. We are often asked why the process takes so long, and it is because of all the opportunity for comment that are fed into the process. I do believe we will have more pipelines as a result of the greater utilization of gas, but they have to be built with sensitivity to the concerns of the people whose communities we are crossing.

Mr. PITTS. Commissioner Moeller, right now, some States average a natural gas utilization rate in the single digits. Given that the EPA assumes that an average 70 percent utilization rate for natural gas is feasible, do you think that many States may fall short in this goal and that many consumers will simply be left with a larger electricity bill?

Mr. MOELLER. Well, I think it would be extremely challenging, Congressman, to reach those 70 percent levels, generally. I will be looking forward to the comments on the rule that talk about particularly the operational aspects of that aspiration, and we will need to get the pipeline in place.

And the question is, does the timing of a new pipeline sync up with the enforcement timeline?

Mr. PITTS. Commissioner LaFleur, my understanding is that the proposed rule factors in new nuclear plants but only factors in 6 percent of the existing nuclear plants; in other words, if an existing nuclear plant shuts down, the impact on a State's ability to comply is limited to 6 percent of the energy that comes out of that plant, which doesn't seem like much of an incentive to take actions that will value the carbon-free energy that nuclear plants provide all day, every day.

Don't you think customers benefit from having plants that have 18 to 24 months of fuel on site, particularly when those plants can run at 97 percent of their capacity even during conditions like the polar vortex or the hottest day of the summer?

Ms. LAFLEUR. I think nuclear plants bring a lot of benefit to customers, including reliability benefits, the fuel security you mention. I don't believe that the EPA mandated what percentage any State could or could not rely on nuclear. That was a building block that was put out that a State could put together. If a State wanted to rely more on nuclear, less on something else, my understanding of the plan, it would be allowed.

Mr. PITTS. Mr. Moeller, would you like to comment?

Mr. MOELLER. Well, I have talked to a few nuclear companies about it, and I think they are still analyzing it, but there is one train of thought that despite EPA's intention, that the 6 percent could actually be counterproductive to nuclear. It has to do with the calculations and replacing it with gas to meet your baseline better. But it is certainly worthy of further discussion. I admire EPA's attempt to try and booster the nuclear units, but there is a train of thought that actually could be counterproductive the way they proposed it.

Mr. PITTS. I yield back.

Mr. WHITFIELD. Gentleman yields back.

At this time, I recognize the gentleman from Kentucky, Mr. Yarmuth for 5 minutes.

Mr. YARMUTH. Thank you, Mr. Chairman.

And thanks to all the commissioners for this discussion. I think it has been a very thoughtful and interesting one.

I want to thank the chairman, my fellow Kentuckian, for returning us to the days of yesteryear with the discussion of Waxman-Markey, which, by the way, did not become law because a Republican minority in the Senate wouldn't let it become law, because it did have a majority of votes in the Senate after passing the House. But when I was considering whether to vote for that bill or not in the House, my primary concern was how it would affect the cost to my consumers, both business and residential.

And I talked to a lot of the businesses, all the big users of power; they were all kind of either for it or neutral on the bill. And then I talked to our utility company and asked them how it would affect residential rates, and they said that they projected that over 10 years the average residential user would experience a rate increase of 15 percent if they did nothing else, and so they didn't engage in any conservation practices.

And I think, understandably, this hearing is focused on the supply side of the energy equation, but the demand side of the energy equation is also critical to our ongoing consideration of our energy future.

And Mr. Norris, you talked about innovation primarily on the supply side, but there is an incredible amount of innovation going on on the demand side, which is going to affect supply and whether or not we have adequate energy in the future. So when we talk about rates, rates don't necessarily mean billing amounts, is that correct? And there are huge amounts of the things going on out in the world of innovation right now which could dramatically affect what the bills are regardless of what the rates are. Is that not true and would you elaborate on that?

Mr. NORRIS. Very true. When I was the chairman of our State commission, we had a utility, MidAmerican, who hadn't raised rates over 10 years, but I got complaints all the time about people's utility bills going up, and it is very simple: You are plugging more stuff in and turning more stuff on. So the demand side is a very important part of this equation.

As I said in my written testimony, the deployment of smart grid and smart meters are already taking place, and that continues to be a technological innovative area where we can do a lot more to

make our consumption of electricity much more efficient, and we should.

Mr. YARMUTH. And, I mean, I am not aware of any decent-sized business that is not very much focused on reducing their energy costs and doing the types of things, whether it is turning their computers off at night or whether it is putting solar panels on their roofs or doing any number of things to reduce those costs.

Have you seen examples of can you gauge what the opportunity in terms of utilization reduction on the demand side would be because of technology, just current technology right now? How much can an average business save by implementing—or an average homeowner save by implementing some of the techniques that already exist?

Do you have an estimate on that?

Mr. NORRIS. How much is the potential, you say, for demand side reduction? Well, no, I don't have a number. I know that there is still a great opportunity for putting price responsiveness and demand response in both our retail and wholesale system. For consumers to get the right price signal, putting elasticity in our demand curve, I think there is a great potential, but I don't have an exact number for you.

Mr. YARMUTH. Right. And we know that, for instance, rates on solar panels have come down approximately 75 percent just in a matter of 5 years or so. So it is reasonable to expect that those kinds of technologies will make it much easier for consumers and for businesses to keep their cost in line, their energy costs in line, even if rates happen to rise at some significant rate.

Is that not true, Ms. LaFleur?

Ms. LAFLEUR. Yes, that is definitely true. And much earlier in my career, I used to run conservation programs for an electric company and there are a lot of things that businesses and residences can do, first of all, when they build in the first place to build inefficiency, but also retrofitting, lighting, motors, and so forth.

Mr. YARMUTH. OK. And we are actually seeing that in the automobile segment of the energy industry, too. Innovation has now vastly increased the amount of mileage, and unfortunately, that is having repercussions in the Highway Trust Fund because people are not buying as much gas and paying as much tax.

But anyway, I appreciate the discussion, and your work. Thank you very much.

Mr. Chairman, I yield back.

Mr. WHITFIELD. Thank you very much. The gentleman yields back, and that concludes today's hearing.

Mr. RUSH. Mr. Chairman, I have a unanimous consent request.

Mr. WHITFIELD. OK. What is it?

Mr. RUSH. Mr. Chairman, I would ask that the record reflect that Commissioner Clark's two sons have been the most attentive and intense listeners we have had before this committee in years and years and years.

Mr. WHITFIELD. Without objection, so ordered.

Mr. CLARK. Mr. Chairman, and ranking member, I appreciate the compliment, but you realize when you make it it is going to cost me a lot more money somewhere down the line paying them back. So thank you.

Mr. WHITFIELD. Well, I am sure that their classmates are going to be excited for them to tell about this hearing that we had on FERC and the clean plan, and they will be the most popular students in school.

And I am also going to ask unanimous consent that we enter into the record a statement from the American Public Power Association on this hearing.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. And that will conclude the hearing.

I want to thank all of you for being here. We also thank you for your responsibility in what you do for our country. We look forward to working with you because we don't really have any easy answers here. There are many challenges facing all of us, and I know that even though we have philosophical differences, we do have the same goal and that is to have a strong economy and reliable abundant electricity.

So thank you all again. The record will remain open for 10 days.

And for the Clark children, I hope you will come back and see us again soon. Thank you very much.

[Whereupon, at 12:16 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]



**Statement  
Of the  
AMERICAN PUBLIC POWER ASSOCIATION  
Submitted to the  
HOUSE ENERGY AND COMMERCE COMMITTEE'S SUBCOMMITTEE ON ENERGY AND  
POWER  
For the July 29, 2014, Hearing on  
"FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid  
Reliability Challenges"**

(Submitted July 29, 2014)

The American Public Power Association (APPA) appreciates the opportunity to submit this statement for the record in relation to the House Energy and Commerce Committee's Energy and Power Subcommittee hearing on "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

APPA is the national service organization representing the interests of over 2,000 municipal and other state- and locally-owned, not-for-profit electric utilities throughout the United States (all but Hawaii). Collectively, public power utilities deliver electricity to one of every seven electricity consumers (approximately 47 million people), serving some of the nation's largest cities. However, the vast majority of APPA's members serve communities with populations of 10,000 people or less.

Overall, public power utilities' primary purpose is to provide reliable, efficient service to local customers at the lowest possible cost, consistent with good environmental stewardship. Public power utilities are locally and state-created governmental institutions that address a basic community need: they operate on a not-for-profit basis to provide an essential public service, reliably and efficiently, at a reasonable price.

APPA commends the Subcommittee for holding this hearing on the Federal Energy Regulatory Commission's (FERC) perspectives concerning the Environmental Protection Agency's (EPA) proposed Clean Power Plan and other grid reliability challenges. The country faces numerous challenges to the reliable and affordable provision of electricity, including retirements of coal and nuclear power plants; substantial increases in variable renewable energy resources and the integration challenges they present; an increasing reliance on natural gas; and the slate of proposed environmental regulations from the EPA, especially the existing source performance

standards (ESPS) for electric utilities. All of these issues are of concern to APPA and its members.

APPA believes EPA's proposed ESPS rule for electric utilities goes beyond what is permissible under Section 111(d) of the Clean Air Act (CAA), and is very concerned about its potential impacts on public power utilities and their customers. APPA is disappointed that EPA has decided to set binding state emissions goals rather than leave it to the states to set individual limits that are achievable at the affected source—the electric generating unit (EGU). Goals for some states are unachievable and would require the early retirement of existing coal- and natural gas-fired power plants, which could result in stranded costs for utilities as well as local reliability impacts.

APPA is also very concerned that the EPA's emission reduction targets in their proposed 111(d) rule are "front loaded," requiring most of the emission reductions by 2020 for many states. Moreover, electric utilities appear to get little or no credit for early actions they have taken to reduce emissions prior to 2012, such as investments in renewable, nuclear, and hydropower resources or energy efficiency upgrades at EGUs. Also of concern is the assumption EPA makes that most existing natural gas plants can operate at a 70 percent capacity factor. For example, state air permits limit many natural gas units from operating at such levels in order to comply with other CAA regulations. In Regional Transmission Organizations (RTO) markets, neither states nor electric utilities control the dispatch of units. Rather RTOs, in their role as the administrators of the regional energy markets, perform this function. It is also not clear that sufficient pipeline capacity exists to provide the natural gas needed to run all of the existing units at such a high rate. All of these issues can have reliability impacts. The EPA should have consulted with the FERC on these issues, as FERC has more expertise in these matters.

APPA finds it troubling that there appears to have been little communication between the FERC and the EPA on this proposed rule, especially regarding electric reliability. EPA consistently claims that its slate of proposed rules on the electric utility industry will not hurt electric reliability. APPA wonders how EPA came to this conclusion, unless discussions with FERC that have not been made public took place. Some FERC Commissioners, along with most of the electric utility industry, have raised these concerns publicly with the EPA, but they appear to have been ignored. EPA has no expertise in electric utility operations, and seems not to have given appropriate deference to the experts, including FERC Commissioners and staff, who oversee the reliability of the bulk power system.

APPA commends FERC's efforts to address issues that are likely otherwise to adversely impact the reliability of electricity service in the near future. These efforts include technical conferences in September 2013, on the RTO-operated mandatory capacity markets, and in April of this year on the operations and pricing problems that occurred during this past winter's polar vortex, and efforts to improve the coordination of electricity and natural gas markets. Moreover, in various forums, individual Commissioners have voiced concerns and drawn attention to the difficulties created by the projected retirements of nuclear and coal units, some of which are caused by EPA's proposed rules. As Allen Mosher, APPA's Vice President of Policy Analysis, stated in his written comments for FERC's June 10, 2014, technical conference on the reliability of the bulk-power system, FERC's attention to reliability concerns has effectively required that FERC

become involved in issues that may be outside of the Commission's jurisdiction, including broad considerations of energy and environmental policy. But such a broad focus is needed for the Commission to meet its many statutory mandates, including ensuring just and reasonable wholesale rates and approval and enforcement of reliability standards.

Despite the commendable efforts of the FERC regarding its attempt to highlight the impacts of the proposed EPA rules, including the ESPS, APPA is not aware that the agency was consulted in any comprehensive way by the EPA. In addition, FERC's interest in the reliability issue suffers from a major shortcoming – the Commission's lack of any apparent will to reform the problematic features of mandatory capacity markets operated by the RTOs in three regions of the country – the Northeast, parts of New York, and the Mid-Atlantic/Mid-West. APPA and many others have concluded that the basic mandatory capacity procurement construct is not a "market" in any meaningful sense of the word. It is instead a centralized procurement, based on a heavily administered pricing structure, governed by thousands of pages of complex rules, that generally does not produce needed new resources. Although implementation of EPA's proposed new rule will entail the construction of new low- or non-carbon dioxide emitting resources, such as nuclear and natural gas plants, a recent study by Christensen Associates commissioned by the Electric Markets Research Foundation concluded that the RTO markets "do not and cannot address long-term capacity needs." The study also found that "the RTO markets include some design elements that impede long-term investments and long-term bilateral contracts."

The failure to recognize this reality has not only kept FERC from adopting fundamental reforms, but to instead agree to rule changes, such as administratively imposed floor prices on new natural gas or even renewable generation, that further increase costs and impede needed new resource development. These capacity markets therefore will exacerbate the reliability and economic costs of the proposed Clean Power Plant rule. As Cliff Hamal of Navigant Economics concluded in a recent paper: "The need to address CO<sub>2</sub> emissions only strengthens the case for rethinking the capacity auction approach and adopting a more practical and lower cost alternative."

Thank you again for the opportunity to submit a statement for the record for this timely and worthwhile hearing.

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**THE COMMITTEE ON ENERGY AND COMMERCE**

**MEMORANDUM**

July 25, 2014

TO: Members, Subcommittee on Energy and Power

FROM: Committee Staff

RE: Hearing on “FERC Perspectives: Questions Concerning EPA’s Proposed Clean Power Plan and other Grid Reliability Challenges”

On Tuesday, July 29, 2014, at 10:00 a.m. in 2123 Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing entitled “FERC Perspectives: Questions Concerning EPA’s Proposed Clean Power Plan and other Grid Reliability Challenges.”

**I. WITNESSES**

- The Honorable Cheryl A. LaFleur, Acting Chairman, Federal Energy Regulatory Commission;
- The Honorable Philip D. Moeller, Commissioner, Federal Energy Regulatory Commission;
- The Honorable John R. Norris, Commissioner, Federal Energy Regulatory Commission;
- The Honorable Tony Clark, Commissioner, Federal Energy Regulatory Commission; and,
- The Honorable Norman C. Bay, Commissioner, Federal Energy Regulatory Commission.

**II. BACKGROUND**

**A. FERC Organization and Responsibilities**

Originally established in 1920 as the Federal Power Commission, the Federal Energy Regulatory Commission (FERC) is an independent administrative agency within the Department of Energy.<sup>1</sup> FERC is tasked with regulating the transmission, reliability, and wholesale sale of electricity in interstate commerce pursuant to the Federal Power Act;<sup>2</sup> the transmission and sale of natural gas for resale in interstate commerce pursuant to the Natural Gas Act;<sup>3</sup> and the transportation of oil by pipeline in interstate commerce pursuant to the Interstate Commerce Act.<sup>4</sup> FERC also is responsible for evaluating proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines, as well as the licensing of non-Federal hydropower projects.

<sup>1</sup> FERC was established in 1977 pursuant to the Department of Energy Organization Act. 42 U.S.C. §§ 7101 *et seq.*

<sup>2</sup> 16 U.S.C. §§ 791 *et seq.* (Part I); 16 U.S.C. §§ 824 *et seq.* (Parts II and III).

<sup>3</sup> 15 U.S.C. §§ 717 *et seq.*

<sup>4</sup> 49 U.S.C. §§ 1 *et seq.*

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FERC is comprised of up to 5 commissioners, each of whom is appointed by the President and confirmed by the U.S. Senate for a 5-year term. One of the 5 commissioners serves as Chairman, as chosen by the President. FERC's organizational structure consists of 12 "offices" within the agency and 5 regional offices. FERC employs approximately 1,480 people. FERC recovers the full cost of its operations through annual charges and filing fees assessed on the industries it regulates. This revenue is deposited into the Treasury as a direct offset to FERC's appropriation, resulting in no net appropriation.

FERC's stated mission is to "assist consumers in obtaining reliable, efficient and sustainable energy services at a reasonable cost through appropriate regulatory and market means." To fulfill its mission, FERC presently identifies the following primary goals: 1) ensure just and reasonable rates, terms, and conditions; 2) promote safe, reliable, secure, and efficient infrastructure; and 3) mission support through organizational excellence.

#### **B. EPA's Proposed Clean Power Plan**

On June 2, 2014, the Environmental Protection Agency (EPA) announced a proposed rule under section 111(d) of the Clean Air Act for existing fossil fuel-fired power plants entitled "Carbon Emission Guidelines for Existing Stationary Sources: Electric Generating Units" ("Clean Power Plan").<sup>5</sup> In the Clean Power Plan, EPA proposes to set unique "state-specific rate-based goals for carbon dioxide emissions from the power sector," which the agency maintains are achievable if a State undertakes a combination of measures across its power sector. EPA derives its mandatory "goals" for the States based on the consideration of four "building blocks," which include measures to:

- "make fossil fuel power plants more efficient," which EPA projects would result in an average heat rate improvement of 6% for coal units;
- "use low-emitting power sources more," which EPA projects could be achieved by dispatch to existing and under-construction natural gas combined cycle units up to a 70% capacity factor;
- "use more zero- and low-emitting power sources," which EPA projects could be achieved through dispatch to new clean generation, including new nuclear generation under construction, moderate deployment of new renewable generation, and continued use of existing nuclear generation; and,
- "use electricity more efficiently," for which EPA assumes increases in demand-side energy efficiency of 1.5% annually.

EPA's Clean Power Plan, as proposed by the EPA, would require significant changes to the way electricity is generated, transmitted, and consumed in States across the country. Such changes could create implementation challenges within several areas of FERC jurisdiction, including wholesale electricity markets, generation dispatch, interstate transmission rates, natural gas pipeline siting and rates, natural gas and electric sector coordination, grid reliability, integration of intermittent resources, and demand-side management resources. Further, FERC's mission to "assist consumers in obtaining reliable, efficient and sustainable energy services at a reasonable cost" may be affected by

<sup>5</sup> For additional information and materials related to EPA's Clean Power Plan, see [Majority Memorandum for Energy & Power Subcommittee hearing on "EPA's Proposed Carbon Dioxide Regulations for Power Plants,"](#) (June 19, 2014).

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EPA's Clean Power Plan, as may be the energy sectors regulated by FERC, which comprise a substantial portion of the U.S. economy and infrastructure.

On July 18, 2014, the Subcommittee sent preliminary written questions to each of the invited witnesses relating to EPA's proposed Clean Power Plan.

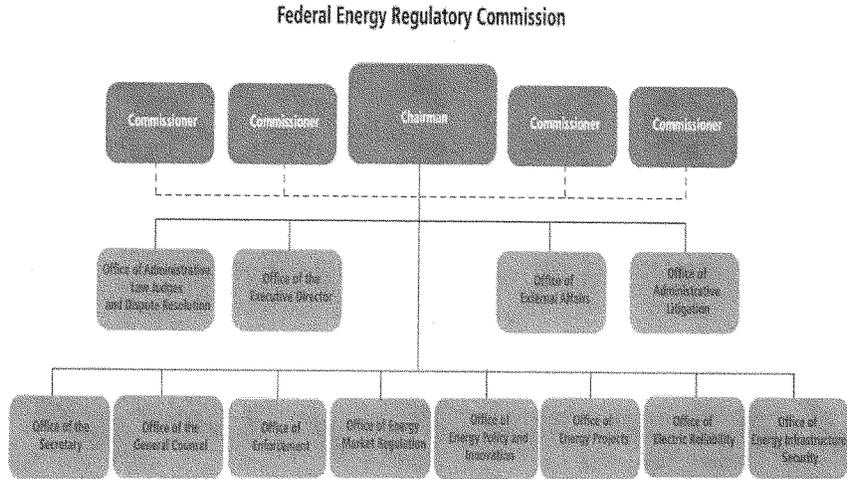
### **III. ISSUES**

The following issues are expected to be examined at the hearing:

- Interagency consultation and coordination by EPA with FERC relating to EPA's proposed Clean Power Plan;
- Potential impacts of EPA's Clean Power Plan on fuel diversity and electricity reliability;
- Potential impacts of EPA's Clean Power Plan on electricity markets;
- Potential challenges associated with increased reliance on natural gas, renewables and energy efficiency under EPA's Clean Power Plan;
- Other grid reliability challenges, including: physical and cyber security, integration of variable energy resources and demand-side management technologies, and fuel diversity;
- FERC oversight of organized wholesale electricity markets and the operation of such markets;
- Electric transmission operations and planning, including implementation of Order No. 1000;
- Natural gas pipeline permitting, LNG siting and hydropower licensing; and
- FERC market manipulation and enforcement authorities.

### **IV. STAFF CONTACT**

If you have any questions regarding the hearing, please contact Tom Hassenboehler, Patrick Currier, or Mary Neumayr of the Committee staff at (202) 225-2927.



**Responses of Acting Chairman Cheryl A. LaFleur  
To Committee on Energy & Commerce  
Subcommittee on Energy & Power  
Preliminary Questions for the Federal Energy Regulatory Commission**

The following questions relate to the U.S. Environmental Protection Agency's ("EPA") recently proposed "Clean Power Plan." See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (June 18, 2014), referred to herein as the "Proposal" or "Clean Power Plan."

**Interagency and State Coordination**

1. **During an Energy & Power Subcommittee hearing on June 19, 2014, EPA Acting Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated that "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."<sup>1</sup>**

- a. **Describe each consultation you have had with EPA regarding the Proposal, including where it occurred, the date(s) on which it occurred, with whom it occurred and identify any other participating agencies. Also provide details of the outcome of those consultations and relevant materials relating to those consultations.**

Answer: In my interactions with EPA regarding MATS and other environmental regulations, I expressed my willingness to be engaged in discussions regarding new regulations of carbon emissions. The list below provides information about meetings with EPA related to the development of the Proposal.

On February 7, 2014, I and others from FERC met with EPA officials at FERC headquarters. At the meeting, the EPA officials described in very general terms aspects of the Proposal. On February 18, 2014, FERC staff met with EPA staff at EPA headquarters in Washington, DC, as a follow-up to learn more about the Proposal.

On March 6, 2014, FERC staff met at EPA headquarters with staff from EPA and DOE to discuss certain concepts proposed in a paper by RTOs related to the Proposal.

On April 16, 2014, FERC staff met with EPA staff at EPA headquarters in Washington, DC, to review parts of a draft of the Proposal and to ask about certain issues and information in the Proposal.

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<sup>1</sup> Further, the Proposal states that "EPA has met on several occasions with staff and managers from the Department of Energy and the Federal Energy Regulatory Commission to discuss our approach to the rule and its potential impact on the power system." See 79 Fed. Reg. at p. 34899.

On April 23, 2014, FERC staff participated in a telephone conference with staff from the EPA and the Office of Management and Budget (OMB) regarding a draft of the Proposal. FERC staff provided oral comments on the draft Proposal, which focused primarily on reliability. FERC staff commented on the draft's contemplated increases in the capacity factor for natural gas combined cycle units, renewable generation, and coal heat rates. In particular, FERC staff commented on pipeline and other infrastructure adequacy given the potential increased utilization of natural gas combined cycle units and renewable generation in the draft Proposal. FERC staff also commented on the advisability of regional collaboration among states and some form of a "reliability safety valve."

On May 29, 2014, FERC staff met with staff from EPA at EPA headquarters in Washington, DC. EPA staff provided FERC staff with an oral summary of the draft Proposal.

On July 18, 2014, FERC staff met with EPA staff at EPA headquarters in Washington, DC. The EPA staff provided FERC staff with an oral update on the public response to the Proposal.

- b. Did EPA request that FERC provide written advice or an analysis regarding the potential impacts of the Proposal on the reliability of the electric grid? If yes, provide a copy of the request and any resulting advice or analysis.**

Answer: EPA did not request written advice or analysis regarding the potential impacts of the Proposal on the reliability of the electric grid. As described in my testimony, FERC staff engaged in discussions with EPA staff.

- c. Are you aware of any outreach by EPA to the North American Electric Reliability Corporation (NERC) regarding reliability impacts prior to issuing the Proposal? If yes, to your knowledge what was the nature of that outreach?**

Answer: I am unaware of any outreach by EPA to the North American Electric Reliability Corporation regarding reliability impacts prior to issuing the Proposal.

**2. The Proposal includes a Technical Support Document entitled "Resource Adequacy and Reliability Analysis." See EPA-HQ-OAR-2013-0602-0368.**

- a. Did FERC prepare this analysis?**

Answer: No.

- b. To your knowledge, did NERC prepare this analysis?**

Answer: To my knowledge, no.

- c. To your knowledge, did FERC or NERC assist in the preparation of this analysis or consult with EPA regarding its preparation or its results? Please provide relevant details and materials.**

Answer: FERC staff discussed various issues with EPA staff, particularly aspects of the “building blocks” and EPA’s modeling results, but did not specifically assist in the preparation of this analysis or consult with EPA regarding its preparation or its results. I do not know if NERC had any involvement in this document.

**d. Did FERC have an opportunity to review this analysis before the Proposal was announced?**

Answer: Yes.

**e. Has FERC independently reviewed this analysis? Does FERC agree with EPA’s conclusion that the “proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems”? See 79 Fed. Reg. at p. 34899.**

Answer: FERC staff is still reviewing this analysis. As I explain in my testimony, as state compliance plans are developed, it will be important that energy infrastructure and markets adjust to support those plans. I would note, however, that compliance is not required until 2020, and then can be met by average performance over 10 years subject to certain limits. For example, a coal-fired unit needed for reliability after 2020 can continue to run, including under a reliability-must-run contractual arrangement, so long as State-wide emissions meet the proposed targets through other means. In this respect, the proposed rule differs from the MATS rule, which requires coal-fired units to comply individually. The flexibility allowed under the Proposal for each State to customize compliance tools can help significantly in this regard. Also, reliability concerns depend in part on when and where preparations for compliance are initiated by electric utilities, natural gas pipeline companies and others. Timely efforts in the right locations can mitigate reliability issues in meeting the level of compliance needed in 2020.

**3. The Proposal states that the “EPA and other federal entities, including . . . the Federal Energy Regulatory Commission (FERC) . . . are committed to sharing expertise with interested states as they develop and implement their plans.” Please explain when and in what manner FERC expressly “committed” to sharing its expertise with States. Please provide relevant details and materials.**

Answer: As discussed in my testimony, the Commission has worked closely with state regulators through the FERC/NARUC Forum on Reliability and the Environment. I remain committed to sharing FERC staff expertise with states as they develop and implement their plans to comply with any final rule promulgated by EPA. This commitment was discussed by FERC staff with EPA staff, but staff does not recall with specificity at which meeting it was discussed.

#### **Clean Power Plan Impacts on Fuel Diversity and Electric Reliability**

**1. Has FERC independently analyzed EPA’s Clean Power Plan to determine the impact it could have on generating unit retirements and potential impacts on fuel diversity and electric reliability? If yes, what were the results of this evaluation? If not, does FERC**

**intend to independently analyze the Proposal to evaluate potential impacts on fuel diversity and electric reliability?**

Answer: FERC has not specifically analyzed the Proposal to determine the impact it could have on generating unit retirements or potential impacts on fuel diversity. Retirement of a unit is an economic decision for the unit's owner, unless a unit is required or requested to remain in service (with appropriate compensation) to ensure reliability. As I have noted many times, an important component of reliability is ensuring that the competitive markets FERC oversees appropriately value the contributions of diverse resources. Following on our April 1 technical conference, the Commission will continue to examine fuel diversity and its impacts on reliability.

**2. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. EPA's Option 1 model specifically identifies each electric generating unit expected to retire by 2020 by name, location, and capacity. See EPA-HQ-OAR-2013-0602-0368 and EPA-HQ-OAR-2013-0602-0220.**

**a. Does FERC staff possess the expertise to complete an independent reliability assessment that (i) geographically plots each of the specific units identified in EPA's model for retirement and each unit that has already retired or announced retirement; and (ii) evaluates the potential regional, state, and local reliability impacts resulting from such retirements?**

Answer: FERC staff has the expertise to geographically plot each of the units identified, and the capability to evaluate reliability on regional, state and local levels. However, to do so in regards to the Proposal involves making many assumptions on key factors, such as the extent and distribution of load reductions from energy efficiency, the number and location of new NGCC generation, and economic conditions such as fuel prices. Given the uncertainty and substantial number of assumptions, the results from any study would depend greatly on the assumptions chosen as inputs. Thus, a study could be more speculative than informative, especially for later years.

**b. Will you commit to having FERC staff complete such an independent assessment prior to October 1, 2014, so that the public may understand the potential impacts on reliability prior to submitting comments on the Proposal, due on October 16, 2014? If not, why not?**

Answer: As noted above, given the uncertainty and substantial number of assumptions, the results from any study would depend greatly on the assumptions chosen as inputs, such that a study could be more speculative than informative, especially for later years. FERC staff will continue to engage with stakeholders to fully understand the issues and concerns.

#### **Clean Power Plan Impacts on Electricity Markets**

**1. Would existing organized wholesale electricity markets have to be redesigned to implement EPA's Proposal? For example, are Regional Transmission Organizations (RTOs) prepared to transition from economic to environmental dispatch? Did EPA consult with FERC regarding the feasibility of switching from economic to environmental dispatch? What RTO implementation challenges would environmental dispatch present?**

Answer: As I have frequently stated, to the extent state compliance plans depend upon changes in the utilization of generation resources, they could have implications for market operations. However, I note that EPA's proposed rule would give the states significant flexibility to design their own compliance plans, so it would be premature for me to speculate on the changes that might be needed to the design of organized wholesale electricity markets. In the past, these markets have been able to successfully integrate state and regional environmental requirements, including greenhouse gas reductions, into their economic dispatch. For example, the organized wholesale electricity markets in the Northeast (ISO New England, New York Independent System Operator and PJM Interconnection, L.L.C. (PJM)) have been able to successfully accommodate the requirements of the Regional Greenhouse Gas Initiative (RGGI) into their market designs. Generators that must purchase emissions allowances under RGGI are able to include the cost of the allowances in their market bids, and those costs are reflected in the economic dispatch. RTO dispatch rules have accommodated certain external factors, and some RTOs (including PJM and the Midcontinent Independent System Operator) have developed procedures to incorporate environmental requirements that limit the number of hours a generating unit may operate into their economic dispatch.

**2. EPA's Proposal wrongly assumes States dispatch electricity. Given that electricity is actually dispatched by RTOs or other market operators on the basis of competitive market results, how would State compliance plans be implemented in electricity markets?**

Answer: It is correct that states do not dispatch electricity. However, RTOs, ISOs, and electric utilities that are responsible for dispatching electricity also do so in compliance with applicable federal and state regulations. Given the flexibility EPA's proposed rule would provide to states to design their own compliance plans, it is not possible to specifically answer how State compliance plans would be implemented in electricity markets, if the rule is adopted. Those decisions will be made based on the actual State compliance plans once they are developed and approved.

**a. Would a State Implementation Plan (SIP) take priority over market dispatch performed by an RTO?**

Answer: As noted above, how states ultimately choose to design their compliance plans to meet the requirements of any final rule issued by EPA will determine how RTO market dispatch procedures will be impacted. RTO dispatch rules are capable of taking into account various external factors, such as limited run times necessitated by environmental or other licensing requirements or minimum run times required by generator operating requirements. FERC has a role in ensuring that the regulatory rules under its jurisdiction for wholesale electric, interstate electric transmission and natural gas pipeline transportation and natural gas pipeline permitting are sufficient to account for any regulatory changes required by the EPA rules.

**b. Would a SIP take priority over bilateral contracts between a buyer of power in one State and a seller of power in another? If so, how, and what is the authority for this?**

Answer: Whether a state compliance plan would take priority over bilateral contracts would depend on the specific provisions of the state compliance plan, the terms of the contracts, and applicable law. An individual bilateral contract may have specific provisions pertaining to treatment of the contract if new regulations affecting the generating resource are adopted. In addition, given the significant flexibility the proposed rule would give States to design their compliance plans, and the extended compliance period, States appear to have the opportunity to account for existing bilateral contracts as they decide how to achieve the final required emissions reductions.

**c. Would a State have authority to compel the continued operation of existing nuclear power plants if those plants are not being dispatched in wholesale electricity markets because their bid costs are too high compared to other generation?**

Answer: States may have the authority to utilize regulatory tools to provide financial support to encourage the continued operation of a power plant (including existing nuclear power plants). The scope of this authority may depend on the state's retail regulatory structure.

**d. How would RTOs reconcile conflicting SIPs within a region?**

Answer: How an RTO would reconcile conflicting requirements in the State compliance plans in their region will depend on the nature of the specific conflict and how it impacts the RTO's operations. However, to the extent states within an RTO pursue individual State compliance plans or adopt multi-State plans that are not consistent with the boundaries of the RTO, there may be the need for the RTO to work with the States and others in the region to ensure that the requirements of the plans can be effectively and efficiently implemented. The RTOs recognize the key role they will play in working with states and stakeholders in their regions; in comments cited by the EPA in the preamble to the propose rule, RTOs offered to provide analytic support to help states develop their plans.

**3. EPA's Proposal is silent on the treatment of purchase power agreements and interaction of energy markets for States that are net importers versus exporters. Do you believe that EPA's Proposal adequately addresses interstate power flows?**

Answer: EPA's Proposal recognizes the benefits of such trading opportunities, subject to the transfer limits between the electrical regions defined in its modeling. Concurrently with the proposed rule, EPA released a "Technical Support Document: Resource Adequacy and Reliability Analysis" that, among other things, explains how EPA took interstate power flows into account when developing its proposal and modeling the impacts of the proposal on the electric grid. This document states that EPA used its Integrated Planning Model (IPM), which divides the continental United States into 64 sub-regions. EPA explains that "IPM addresses reliable delivery of generation resources for the delivery of electricity between the 64 IPM

regions, by setting limits to the ability to transfer power between regions using the bulk power transmission system.” (pg. 2). This type of analysis is similar to the methods used by industry for resource adequacy analysis.

**4. Do you believe that EPA’s Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA’s MATS rule? What impacts could this have on the owners of stranded assets, wholesale energy markets and consumer electricity costs?**

Answer: Changes in regulatory requirements can at times result in stranded financial investments by owners of regulated assets like power plants. The extent to which the EPA’s proposal, if adopted, could result in stranded investments depends on many factors, including the ultimate design of State compliance plans and the compliance deadlines in any final rule issued by EPA. For example, States would appear to have the flexibility to adopt compliance plans that allow units that have been retrofitted with emissions controls to continue to operate, and to instead adopt other measures to reduce overall emissions from fossil-fired power plants and satisfy the emissions requirements. In addition, the extended compliance period in the proposed rule appears to give states the flexibility to continue to operate retrofitted units while they transition to other lower-emitting electricity sources or adopt demand-side measures to reduce emissions. The proposed rule would require initial emissions reductions over a 10-year transition period from 2020-2029, and require compliance with the final emission reduction goals by 2030.

The impacts of any ultimately stranded investments on asset owners, wholesale markets, and consumers will similarly depend on many factors, including the magnitude of any stranded investment resulting from a final rule and whether state regulators allow asset owners to recover those investments in future rates. While large amounts of stranded investment can negatively impact the earnings of asset owners and lead to higher consumer rates, states have experience addressing stranded costs and have ratemaking tools available to them to minimize such impacts.

**Increased Reliance on Natural Gas, Renewables and Energy Efficiency**

**1. EPA’s Clean Power Plan contemplates natural gas combined cycle (NGCC) plants running at a 70% capacity factor to displace a significant amount of coal-fired generation. EPA’s regulatory impact analysis projects pipeline capacity increases of 4-8% beyond base case projections by 2020.**

**a. Has FERC analyzed whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use?**

Answer: As I stated in my testimony, FERC staff emphasized that in light of EPA’s proposal to rely on increased capacity factors for natural gas fired generation resources, gas pipeline adequacy should be considered from a regional perspective, not just a national perspective, due to existing constraints on the system. As I previously stated, an important role for FERC as the

states implement their compliance plans is to support development of needed gas pipeline infrastructure through our permitting and ratemaking authority.

**b. Did EPA consult with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal?**

Answer: As noted above, FERC staff discussed this issue with EPA staff prior to publication of the Proposal.

**c. Given the challenges of gas supply in the most recent winter, and continued concerns about gas deliverability to certain parts of the country, do you agree with EPA that its modeled capacity increases are feasible by the initial compliance date of 2020?**

Answer: As noted above, the construction of adequate natural gas infrastructure will be an important factor affecting the implementation of the state compliance plans. The feasibility of the increases by 2020 depends on a variety of factors, including whether gas users make timely commitments to support the infrastructure expansion. I believe that the time needed for FERC's certificate review and construction itself is unlikely to impair feasibility and am committed to continuing to ensure that FERC permitting processes are effective and efficient.

**2. Has FERC completed any electric transmission system capability and reliability analysis that demonstrates that the increases in NGCC plant utilization that EPA assumes in its Proposal could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants?**

Answer: No.

**3. Has FERC analyzed the integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan? Did EPA consult with FERC regarding these integration issues?**

Answer: FERC staff discussed these issues with EPA staff and pointed out that shifts in supply resources would require consideration of voltage control and other related issues. I note that NERC and others are continuing to assess these issues.

**4. Has FERC studied whether under the EPA Proposal additional transmission lines would need to be built to integrate more renewables, where the lines may be built, and how long it may take to site, permit and build these lines? Has FERC estimated the cost of transmission necessary to supply increased renewable resources under EPA's Proposal?**

Answer: FERC has not studied the extent to which EPA's proposal, if adopted, would require the construction of additional transmission to integrate renewables, or where specific transmission infrastructure might be built and the time it would take to permit and construct such infrastructure. FERC has also not estimated the cost of transmission that may be required under

EPA's proposal. However, FERC staff provided input to EPA staff regarding the general time required to construct new transmission infrastructure needed to integrate remote renewables.

Planning for future transmission needs is conducted by planning authorities, RTOs and utilities. FERC-jurisdictional utilities, including the RTOs, conduct such planning pursuant to regulations adopted under Order No. 890 and, once fully implemented, Order No. 1000. These regulations require public utility transmission providers to engage in local and regional transmission planning to identify new and upgraded transmission lines that are needed to maintain reliability, address uneconomic congestion, and satisfy public policy goals enacted by federal, state and local authorities. The mechanisms that States choose to include in their compliance plans – including increased use of renewable generation, if States choose that approach – will be inputs into those planning processes.

**5. The Clean Power Plan would facilitate the rapid expansion of renewable resources, particularly rooftop solar underwritten by long-term leases.**

**a. Has EPA requested, and has FERC conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources?**

Answer: No.

**b. Do you believe that rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis?**

Answer: While I do not believe that the growth of variable resources, in and of itself, will pose challenges to electric reliability, as I frequently observe, increased reliance on variable resources may require the development of new transmission infrastructure and adaptation to markets.

**6. The Clean Power Plan contemplates significant increase in energy efficiency and demand-side management. How would the increased role of energy efficiency and demand-side resources impact wholesale energy markets? Reliability? Can FERC regulate such resources, particularly given the recent court ruling vacating FERC's Order No. 745?**

Answer: Increased energy efficiency and use of demand-side resources would alter the balance of supply and demand in wholesale energy markets. Historically, the organized wholesale electricity markets have been able to reliably integrate these resources into their operations and system planning. For example, during recent extreme weather events like the Polar Vortex and excessive heat of September 2013, PJM activated over 2500 megawatts of demand response and over 6600 megawatts of emergency demand response, respectively, to maintain reliability. During the Polar Vortex in particular, PJM has reported that over 90 percent of the demand response resources it called responded, despite the fact that those resources have no obligation to respond during the winter months.

The Commission's jurisdiction over demand response resources in wholesale energy markets is still at issue before the United States Court of Appeals for the District of Columbia Circuit. On

July 7, 2014, the Commission sought rehearing *en banc* of the court's determinations regarding FERC jurisdiction over demand response resources in wholesale energy markets in *Electric Power Supply Association et al. v. FERC*, the decision vacating Order No. 745. FERC's petition for rehearing *en banc* is pending before the court.

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HENRY A. WAXMAN, CALIFORNIA  
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August 13, 2014

The Honorable Cheryl A. LaFleur  
Acting Chairman  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Dear Chairman LaFleur:

Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 29, 2014, to testify at the hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Wednesday, August 27, 2014. Your responses should be mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed to [Nick.Abraham@mail.house.gov](mailto:Nick.Abraham@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

  
Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

Additional Questions for the Record  
Chairman Cheryl A. LaFleur

**The Honorable Ed Whitfield**

1. In your testimony, you stated that:

**FERC staff commented on the proposal through the OMB interagency review process from a reliability perspective. Among other recommendations, FERC staff emphasized the need for the development of natural gas pipeline and electric transmission infrastructure to enable compliance with State compliance plans.**

**Please provide a copy of the comments and recommendations to which you are referring in the above statement.**

Answer: Commission staff reviewed parts of the draft Greenhouse Gas rule as a part of the OMB process and provided oral input to the EPA from a reliability perspective. We did not provide written comments. However, as requested in Question 2, I have attached the internal memo to file discussing staff's phone call with representatives of OMB and EPA on EPA's draft rule.

**2. During the hearing, in response to a question regarding FERC and EPA coordination on the development of the Clean Power Plan, you stated that "we [FERC] kept a memo, but we did not turn them in in writing because that has not been the practice." Please provide a copy of the memo you referred to and any related materials.**

Answer: See response to Question 1.

**3. Multiple times during the hearing you stated that it was premature for FERC to complete a reliability analysis and that it would make more sense to wait until States submitted their respective compliance plans. For example, in one instance you stated "I believe it is our responsibility to make sure that reliability is sustained. I think we will know much more when we see the different State plans." And yet EPA has already concluded that the "proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems."**

**a. Please explain why EPA is able to complete a "Resource Adequacy and Reliability Analysis" and draw reliability conclusions based on the results, but FERC believes it is premature to complete such an analysis.**

Answer: It is premature to complete a detailed reliability analysis rather than a high level study, such as the one completed by the EPA, because there are four proposed building blocks as well as other options that each State can combine to create a customized compliance plan. Unlike the Mercury and Air Toxics Standards (MATS) rule, the proposed Clean Power Plan would be implemented on a state or regional level rather than on an individual facility level, which leads to the need to consider many more variables. For example, any detailed reliability analysis would involve making many assumptions on key factors of potential State plans, such as the extent and distribution of load reductions from energy efficiency, the number and location of new natural

gas combined cycle (NGCC) generation facilities, and economic conditions such as fuel prices. As such, given the uncertainty surrounding what State plans will look like, the results of any study would depend greatly on the assumptions chosen as inputs, such that a study would likely be more speculative than informative, especially for later years. Finally, because the proposed Clean Power Plan includes both flexibility in the form of the regional compliance option and an extended timeframe for compliance, industry, states and others will have time to prepare and complete studies to assist with compliance as compliance plans are developed.

**b. Is EPA better positioned to complete reliability analyses than FERC?**

Answer: FERC's approach to reliability analyses is generally granular, employing detailed power flow analyses to evaluate a particular scenario and set of constraints to determine the potential impact on reliability. As noted in my response to Question 3a, due to the uncertainty of potential State compliance plans, a study at this point would likely be more speculative than informative. I am not in the position to assess EPA's ability to perform reliability analyses. As I stated in my testimony, the Commission will continue to be closely engaged with EPA, states, regional transmission organizations, independent system operators, industry and NERC to identify and resolve any reliability issues as state and regional implementation plans are developed and implemented.

**c. Please provide the current FY 2014 (and requested FY 2015) budget for FERC's Office of Reliability.**

Answer:  
 FY 2014 - \$12,342,772  
 FY 2015 (requested) - \$12,421,324

**d. How many employees are currently in FERC's Office of Reliability?**

Answer: As of August 15, 2014, the Office of Electric Reliability had 92 employees. Within this Office, most of the modeling work has generally been performed by a group of about ten employees, although a number of other employees within the Office also are able to do this type of work and, from time to time, may do so.

**e. Should EPA have refrained from making resource adequacy and reliability determinations until after States have submitted implementation plans, as you have suggested?**

Answer: See response to Question 3b.

**4. Do you view EPA's proposed Clean Power Plan as an "energy plan" or a "pollution control" rule? Why or why not?**

Answer: I consider EPA's proposed Clean Power Plan to be an environmental rule that has implications for energy resources.

**5. EPA's "Best System of Emissions Reduction" goals were developed using 2012 as the baseline year. Does FERC believe that 2012 was a reasonable baseline to use given the**

**historically low natural gas prices and economic conditions? Wouldn't you agree that considering multiple years in the EPA baseline would produce a more realistic analysis?**

Answer: Any baseline year that is chosen relies on a specific set of conditions that may affect each state uniquely. The determination of the appropriate baseline year to establish emissions goals is not within my purview.

**6. Would you agree that the proposed Clean Power Plan gives EPA a certain amount of control over State decisions regarding the generation, supply and consumption of power?**

Answer: The proposed Clean Power Plan does not give the EPA direct control over state power decisions. The proposed Clean Power Plan, like other environmental and regulatory requirements, will affect the choices states make regarding generation, supply, and consumption of power. However, the proposed Clean Power Plan also provides the states with flexibility regarding those choices.

**7. As the D.C. Circuit Court recently held, the Federal Energy Regulatory Commission lacks authority to dictate how States plan and operate their energy systems. Are you aware of any statutory authority that permits EPA to mandate that States restructure their electric systems and subject State energy decisions to federal oversight and control?**

Answer: Assessment of EPA's statutory authority is not within my purview. If challenged, the legality of the EPA's proposed rule will be decided by the courts.

**8. To what extent does FERC have authority over State utility and resource planning? Are you aware of any statutory authority giving EPA greater authority in this area than FERC?**

Answer: The Commission, and not the EPA, has statutory responsibilities to ensure just and reasonable wholesale rates, authorize the construction of certain energy infrastructure, and oversee the reliability of the bulk-power system.

**9. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. What do you view as the potential reliability impacts resulting from the loss of 180 gigawatts of generation over the next 6 years?**

Answer: The impacts of projected retirements will depend on, among other factors, the timing, location, and type of facilities retiring, and the amount of capacity additions during this period. The proposed Clean Power Plan includes flexibility in the form of the regional option and extended implementation of state plans over ten years beginning in 2020 and continuing through 2030. This provides industry with time to prepare for compliance as well as the ability to make additional adjustments during the compliance period, if needed, to ensure reliability. Historically, industry has demonstrated that significant investment is possible on a relatively short time frame. However, as I noted in my testimony, the Commission will have an important role in monitoring potential reliability impacts related to the proposed rule, in supporting the

development of gas pipeline and electric transmission infrastructure, and considering any revised market rules necessitated by state or regional compliance plans.

**10. Would you be supportive of EPA including in its final Clean Power Plan a "reliability safety valve" that provides FERC greater authority to prevent the retirement of reliability critical generating units? What might such a safety valve look like?**

Answer: I believe that flexibility will be an important tool to enable compliance with the proposed Clean Power Plan. In that regard, I would support a carefully designed mechanism to consider reliability if an issue arises. FERC is prepared to assist the EPA with reliability topics as we have in the past, and one approach might be to focus such a mechanism on multi-state aspects of compliance, to ensure that individual state plans do not conflict in ways that might pose reliability problems.

**11. Has EPA advised you about how the Clean Power Plan would work in states with multiple Regional Transmission Organizations (RTOs) or states with RTO members and non-RTO members or states with no RTO members? If yes, how would the plan work according to EPA?**

Answer: No, the EPA has not advised FERC on this issue.

**12. EPA analyzed a set of compliance scenarios referred to as "Regional" scenarios. The regional scenarios allow emission rate averaging across affected sources within six multi-state regions, informed by North American Electric Reliability Corporation (NERC) regions and Regional Transmission Organizations (RTOs). What role does FERC see for itself in overseeing such regional compliance efforts?**

Answer: FERC has a role in ensuring that the regimes for wholesale electric service, interstate electric transmission and natural gas pipeline transportation and natural gas pipeline permitting under its jurisdiction are sufficient to account for any regulatory changes required by the EPA rules.

**13. Regarding the June 6th decision by the D.C. Circuit Court of Appeals in the *Delaware Riverkeeper Network vs. FERC* case, there are concerns that this decision will lead to much longer review times for natural gas pipeline approvals.**

**a. In particular, what changes is FERC considering in regards to how it reviews natural gas pipeline applications because of this decision?**

Answer: The *Delaware Riverkeeper* decision, in which the court held that the Commission must avoid segmenting the environmental review of closely-related, contemporaneous projects and ensure that it analyzes the cumulative environmental impacts of such projects, was based on the specific facts of that case. Commission staff will be mindful of the court's analysis as it processes future pipeline project applications, but I cannot say to what extent other cases will present similar facts.

**b. What impact will these changes have on the length of time it takes to review these applications?**

Answer: It is possible that the Commission may have to adjust its analysis of particular projects if applications to authorize other, closely-related projects are filed soon after the initial project applications, but I cannot predict to what extent this is likely to occur. The Commission will continue to process natural gas pipeline certificate applications as expeditiously as possible consistent with our statutory responsibilities.

**14. In May, the government of the Commonwealth of Puerto Rico wrote to FERC expressing concern that FERC is not moving quickly enough to complete the review of Aguirre Offshore LNG import terminal. Currently FERC is scheduled to release the FEIS for the project on December 19, 2014 but Puerto Rico is asking for FERC to move up this date. Not only does Puerto Rico need LNG to help lower extremely high electricity prices, but also to help be in compliance with EPA mercury and air toxics standards. Is FERC looking to work with Puerto Rico in order to help the Commonwealth?**

Answer: I appreciate the view of the Commonwealth and other stakeholders. The draft Environmental Impact Statement (EIS) for this project was issued August 7, 2014. FERC staff is continuing its environmental review process and is currently taking comments on the draft EIS from the public, as well as federal, state, and local agencies, including holding public, centrally-located meetings within the project area. Further, the Commission will continue to accept comments after the due date of September 29, 2014. As in all certificate proceedings, the Commission staff will issue the final EIS once it is completed, which may be earlier than the scheduled date.

**15. The Department of Energy in late May abruptly changed their approval processes for LNG export applications, now making DOE's approval contingent upon FERC's approval of the export facility.**

**a. Did DOE consult with FERC prior to making the announced changes or request FERC's input about how these changes might affect the process?**

Answer: I was notified immediately before the announcement, but not consulted on the changes. The change in the DOE approval process does not impact the FERC review process.

**b. DOE also announced that in addition to the process changes for LNG export applications it will also release two additional environmental reports "beyond what is required for NEPA" on LNG exports. Given that this seems to encroach upon FERC's permitting role, has FERC advocated for additional environmental analysis beyond what is required under NEPA?**

Answer: I do not believe that these studies encroach upon the Commission's permitting role. The Commission's NEPA responsibilities, as evidenced in its environmental documents, are limited to assessing the environmental impacts reasonably related to the proposed facilities.

**16. What contingency plans does FERC have in the event a court strikes down Order 1000 as outside the four corners of the Federal Power Act?**

Answer: The U.S. Court of Appeals for the D.C. Circuit denied all of the challenges to Order No. 1000 in *South Carolina Pub. Service Auth. v. FERC*, Nos. 12-1232 (August 15, 2014).

**17. Does the physical security standard recently passed by NERC require protection of control centers for regional reliability coordinators, such as the Peak Reliability control center that manages reliability for eleven western states including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming?**

Answer: The Commission recently issued a Notice of Proposed Rulemaking which largely approves the proposed physical security standard. NERC's petition to approve the physical security standard states that the standard's drafting team determined that the proposal should only provide additional physical security protections to those primary control centers that can physically operate critical substations. The drafting team also determined that a physical attack on a control center that only has monitoring or oversight capabilities of a critical substation would not have a direct impact on reliability in real-time. It would be inappropriate for me to judge the merits of the proposed standard before interested parties have an opportunity to submit comments to the Commission, but I will carefully consider them to ensure that the final standard adequately protects the bulk-power system.

**18. Could a coordinated attack on one or more large generation plants cause a cascading outage?**

Answer: A carefully planned and executed attack on one or more large generation plants could cause cascading outages, but I have not seen information that would lead me to believe that it could cause a long-term power shortage. The extent and duration of any outage from an attack would depend upon a number of factors, such as the size and location of the plant, system loads, the configuration of the grid, the availability of replacement equipment and fuel, and the resilience of the systems under attack. Resilience begins with how the system is planned, designed, constructed, and operated, and is informed by how asset owners and grid operators respond to and learn from events. Many of these factors are addressed in detail in the FERC-approved mandatory reliability standards, such as standards requiring that the grid be able to continue to operate after a single contingency event and certain blackstart capabilities be in place, ensuring that additional generation is able to come online to replace units lost unexpectedly.

**19. Does the physical security standard recently passed by NERC require protection of large generation plants?**

Answer: The proposed standard does not require the protection of generation plants. In its petition seeking Commission approval of the proposed standard, NERC stated that a "generation facility does not have the same critical functionality as certain ... Transmission substations due to the limited size of generation plants, the availability of other generation capacity connected to

the grid, and planned resilience of the transmission system to react to the loss of a generation facility.”

**20. FERC sponsored a report by the Oak Ridge National Laboratory, "Intentional Electromagnetic Interference (IEMI) and Its Impact on the U.S. Power Grid." This report found that critical electric grid equipment is susceptible to damage from local electromagnetic pulse devices. Since the publication of the Oak Ridge report in 2010, what steps has FERC taken to protect the grid against local electromagnetic pulse devices?**

Answer: While there is no wide scale threat detection or deterrence program in place for IEMI, the Office of Energy Infrastructure Security works collaboratively with other agencies to help utilities who are currently engaged in incorporating best practice IEMI prevention into their facilities. Further, although FERC has not taken any action specific to IEMI, the Commission has recently required NERC to address the impact of geomagnetic disturbances on the reliable operation of the bulk-power system. These standards could help mitigate the threat of an IEMI event.

**21. Would it be important for grid reliability coordinators to know if an electromagnetic pulse attack is taking place?**

Answer: Considering the speed and impact of an EMP event, the industry should be made aware of any threat prior to its occurrence, when possible. Mitigating measures such as protective equipment can help address a risk of inadequate warning.

**22. How much do electromagnetic pulse detectors cost? Would it be cost-effective to require utilities to install electromagnetic pulse detectors at critical grid substations and control centers?**

Answer: I am informed that at least one manufacturer produces an EMP detector for approximately \$15,000. The cost-effectiveness of such detectors depends on a variety of circumstances, and it is difficult to offer a generalized conclusion on the issue.

**23. What steps has FERC taken to protect the grid from solar storms and other geomagnetic disturbances?**

Answer: The Commission issued a final rule on May 16, 2013, requiring NERC to address the impact of GMDs on the reliable operation of the bulk-power system in two stages. In the first stage, the Commission directed NERC to submit reliability standards that require owners and operators of the bulk-power system to develop and implement operational procedures to mitigate the effects of GMDs consistent with the reliable operation of the bulk-power system. In the second stage, the Commission directed NERC to submit reliability standards that require owners and operators of the bulk-power system to conduct initial and on-going assessments of the potential impact of benchmark GMD events on bulk-power system equipment and the bulk-power system as a whole. If the assessments identify potential impacts, the reliability standards should require owners and operators to develop and implement a plan to protect against instability, uncontrolled separation, or cascading failures of the bulk-power system.

As a result of the first stage efforts, on June 19, 2014, the Commission approved a new reliability standard, EOP-010-1 – Geomagnetic Disturbance Operations. Reliability standards to address the Commission’s second stage directives are still under development. The Commission has set a January 2015 compliance deadline for the filing of the proposed second stage GMD reliability standards.

Additionally, FERC continues to be an active participant in efforts to protect the bulk-power system from GMDs by facilitating the advancement and incorporation of new technologies and mitigation methods into best practice applications and by working together with our federal partners, NERC, and the Geomagnetic Disturbance Task Force.

**24. Regarding FERC's Office of Enforcement, it is my understanding that FERC has a "Hotline" that is used for referrals of suspected violations but that there is no "Help Line." Is there a dedicated compliance line? How often is it used for compliance guidance?**

Answer: The Commission first created an Enforcement Hotline in 1987, then expanded the scope of the Hotline in 1991 and finally codified the Enforcement Hotline in its regulations in 1999. The Commission explained that the Hotline would field concerns regarding a wide variety of matters, including allegations of: (1) market manipulation; (2) failure to follow the requirements of a transmission tariff; (3) abuse of an affiliate relationship; (4) failure to follow electric reliability standards; or (5) failure to comply with hydroelectric project licensing conditions. The Commission also directed that the Hotline would provide information to the general public and guidance to the energy industry regarding the application of the Commission's statutes, rules, regulations and order. In practice, Enforcement staff (in consultation with other FERC program offices) routinely provides informal guidance to Hotline callers to assist with compliance. The Commission posts information about the Enforcement Hotline and how members of the public may contact the Enforcement Hotline on its website. See <http://www.ferc.gov/enforcement/staff-guid/enforce-hot.asp>

The Commission created the Compliance Help Desk in May 2008. The Compliance Help Desk is manned by staff from the Office of General Counsel, the Office of Enforcement, the Office of Energy Market Regulation, the Office of Energy Policy and Innovation, the Office of Electric Reliability, and the Office of Energy Projects. Informal advice given by staff in response to a compliance help desk inquiry is not binding on the Commission and may represent the view of only individual staff members. The Commission posts information about the Compliance Help Desk and how members of the public may contact the Compliance Help Desk on its website. See <http://www.ferc.gov/contact-us/compliance-help-desk.asp>

Finally, the Commission has a number of other mechanisms available to obtain guidance from Commission staff on a variety of regulatory and compliance issues, including informal staff contact, requests for declaratory orders, general counsel opinion letters, and accounting interpretations.

**25. How many No Action letters has FERC's Office of Enforcement issued and how long was the process from start to finish for each?**

Answer: The Commission established the No-Action Letter process in November 2005. No-Action Letter requests are submitted to the General Counsel. Given the nature of the No-Action Letter requests, Commission staff from various offices, including the Office of General Counsel, the Office of Enforcement, the Office of Energy Market Regulation, and the Office of Energy Policy and Innovation participate in the review of No-Action Letter requests. In 2008, the Commission modified the No-Action Letter process and indicated that it expected that in most circumstances, staff would act on No-Action Letter requests within 60 days after the filing of, or amendment to, a request.

Since 2006, the Commission has received a total of 28 No-Action Letter Requests. The average response rate was 38.9 days.

**The Honorable David B. McKinley**

**1. This January, during the "Polar Vortex", electricity customers in the PJM region experienced significant abrupt increases in their electricity costs, with bills rising to several times their normal levels. These price spikes were caused, in part, by significant generation outages during January, despite these generation resources receiving billions of dollars a year in advanced payments in exchange for their being available to provide energy during peak periods, whether in the extreme heat of the summer or the extreme cold of the winter. I am concerned that the causes of this situation have not been understood well enough to prevent it from happening again. Do you think you fully understand what happened and can assure us it isn't going to happen again? Has the Commission conducted a comprehensive root cause investigation and analysis of the situation, or directed PJM or the PJM Independent Market Monitor ("IMM") to do so?**

**a. If yes, have those results been released publicly?**

**b. If no, why not?**

Answer (a and b): The Commission held a technical conference on Winter 2013/14 Operations and Market Performance in RTOs/ISOs on April 1, 2014 to explore the impacts of the season's cold weather events on the RTOs/ISOs, and discuss action taken to respond to those impacts. At that technical conference, staff from the Commission's Office of Enforcement provided an overview of its comprehensive review of the Polar Vortex events. Enforcement staff's presentation is available at: <http://www.ferc.gov/CalendarFiles/20140401083844-Staff%20Presentation.pdf>. This review augmented Enforcement staff's regular surveillance program which routinely screens the natural gas and electric markets for potential manipulation or other improper conduct. As Enforcement staff noted at the Technical Conference, to date, it has not found any indication that manipulative activity caused the high natural gas or electricity prices. However, Enforcement staff continues to examine whether market participants may have improperly benefitted from the unusually constrained conditions in the electric markets in violation of the Commission's rules.

PJM conducted an investigation of last January's "Polar Vortex" events in its region, and issued a public report on May 9, 2014. In its report, PJM describes several challenges it faced in maintaining reliability during the extreme weather events of last winter, outlines a number of the

causes of those challenges, and identifies action items to improve operations and market performance in the future. The report is available at: <http://www.pjm.com/~media/committees-groups/task-forces/cstf/20140509/20140509-item-02-cold-weather-report.ashx>.

The Commission's technical conference and the work of its staff to analyze the events of last winter, along with the work of PJM, have helped us to better understand what caused the significant price increases and poor generator performance. We will continue to analyze these events and assess opportunities to improve the operational and market performance of the RTO/ISOs in future cold weather events.

**2. What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, to identify potential solutions to the generation performance problems that occurred during January 2014 in the PJM region?**

Answer: The Commission and PJM have both undertaken significant efforts to identify potential solutions to generation performance issues. As noted in response to Question 1, the Commission held a technical conference on Winter 2013/14 Operations and Market Performance in RTOs/ISOs on April 1, 2014 to explore the causes of the season's cold weather events and their impacts on the RTOs/ISOs, and to discuss actions taken to respond to those impacts (Docket No. AD14-8-000). Following the conference, the Commission invited written post-technical conference comments. Thirty-five entities filed comments addressing various aspects of the impacts of cold weather events on RTOs/ISOs across the country during Winter 2013/14, including generator performance. In addition, last year the Commission launched an inquiry into the centralized capacity markets in the eastern RTOs and ISOs, including PJM, to consider how their rules and structures are supporting the procurement and retention of resources necessary to meet future reliability and operational needs. The Commission held a technical conference as part of that inquiry, and received post-technical conference comments from industry and the public. Generator performance issues have been a significant topic of discussion in that inquiry, as well.

The RTOs, including PJM, have responded to the generator performance concerns highlighted in these Commission inquiries. ISO-NE has proposed a new capacity market design that ISO-NE expects will improve generator availability and performance by rewarding generators that are available during critical events with relatively higher payments, while ensuring that generators that are not available during such events are penalized.

Similarly, PJM has initiated discussions with its stakeholders regarding potential revisions to the region's capacity market to improve generator availability and performance during periods of high demand on the grid. Materials on their proposal are available on their website at <http://www.pjm.com/committees-and-groups/committees/mrc.aspx>. Commission staff has had preliminary discussions with PJM about these potential market rule changes, and will continue to closely monitor the stakeholder process. I can assure you that the Commission will act expeditiously to consider any market rule changes filed with us as a result of this effort.

**3. Has the Commission determined whether any generation outages were reflective of attempts to manipulate market-clearing prices?**

Answer: As part of Enforcement staff's comprehensive review of the Polar Vortex events, Enforcement staff spoke with market participants, and analyzed data and information related to generation outages to determine if those outages were part of a manipulative scheme or otherwise improper under the Commission's rules. Through this review, Enforcement staff did not find that any generator outages reflected attempts to manipulate market-clearing prices. Enforcement staff continues to investigate market performance issues related to the Polar Vortex events.

**4. We understand that the delivered price of natural gas rose to historic highs in the PJM region during January 2014, and that these unprecedented delivered prices for natural gas were primarily the result of extraordinarily high prices for capacity on interstate natural gas pipelines in the PJM region. Has the Commission conducted a comprehensive root cause investigation and analysis, or directed PJM or the PJM Independent Market Monitor ("IMM") to conduct a comprehensive root cause investigation and analysis, of the unprecedented natural gas prices that surfaced in the PJM region during January 2014?**

Answer: See my response to Question 2. PJM conducted its own analysis of the high prices in the PJM region during January 2014. Enforcement staff spoke with market participants, and analyzed data and information related to the high natural gas prices to determine the cause of such prices. To date, Enforcement staff has not found that such high prices were the result of anything improper under the Commission's rules, but Enforcement staff continues to assess all aspects of market performance issues related to the Polar Vortex events.

**a. If yes, have those results been released publicly?**

**b. If no, why not?**

Answer (a and b): As noted in my response to Question 1, Enforcement staff provided a presentation on its preliminary findings from its review of the Polar Vortex events at the April 1, 2014 Technical Conference. The Commission may release additional details relating to this review in the future.

**5. What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, or directed interstate natural gas pipeline operators to undertake, to identify potential solutions to the natural gas deliverability problems that occurred during January 2014 in the PJM region, either by better optimizing the use of existing assets or by constructing new assets or both?**

Answer: Several events over the last few years demonstrate the crucial interaction between natural gas pipelines and electric transmission systems. The Commission convened a technical conference in April 2014 on winter market operations in the RTO/ISO regions at which we discussed communications during the cold weather events with industry, as well as other experiences and lessons learned. At that conference, I asked the RTOs, including PJM, to look at pricing fuel assurance into the markets. Following that conference, a number of RTOs have filed or are considering revisions to their tariffs to provide for better winter performance.

As an example, PJM is currently working on several initiatives with its stakeholders to identify potential solutions to the problems that occurred during January 2014 in the PJM region. For example, PJM is currently working with its stakeholders to develop a new Capacity Performance Product to ensure that capacity resources are available to perform during critical operational periods such as the extremely cold weather this past winter. The solution would address fuel security, performance incentives and penalties for generators; standards for availability; and increased operating flexibility from generators.

Furthermore, PJM has either established committees or task forces to explore solutions to address the following: (1) difficulties experienced in scheduling gas-fired generation during cold weather events, as well as the ability to track dual-fuel capability, (2) develop a permanent solution, if necessary, related to the temporary waivers of the \$1,000 per MWh offer caps that the Commission granted in January 2014, and (3) various gas-electric coordination issues.

In addition, the Commission has been focusing on the coordination of the gas and electric industries since 2012. As a part of that effort, on November 15, 2013, the Commission issued a Final Rule allowing interstate natural gas pipelines and electric transmission operators to share non-public operational information to promote the reliability and integrity of their systems. In addition, on March 20, 2014, the Commission issued a Notice of Proposed Rulemaking proposing to revise the natural gas operating day and scheduling practices used by interstate pipelines to schedule natural gas transportation service in light of increased reliance on natural gas by electric generators. The Commission has also asked staff for quarterly reports through 2014 on industry efforts and initiatives on gas-electric coordination. Those reports are publicly posted on the Commission's website. Also, Commissioner Moeller recently announced a meeting in September to discuss the concept of developing an electronic information and trading platform for natural gas.

**6. Has the Commission determined whether any natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices?**

Answer: As part of Enforcement staff's comprehensive review of the Polar Vortex events, Enforcement staff analyzed data and gathered information related to natural gas deliverability problems from market participants, including gas suppliers, LDCs, and pipelines, as well as generation operators, to determine if manipulation may have contributed to the high natural gas prices or electricity market clearing prices during the cold weather events. To date, enforcement staff has not found indications that natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices. Enforcement staff continues to investigate market performance issues related to the Polar Vortex events.

**7. Price increases for natural gas and electricity in the PJM region, and elsewhere, are very concerning to me. My constituents in the PJM region have asked me to ensure that markets have been, and are, functioning properly and that prices have not been increased by speculation or manipulation. It is now July, can you assure me that FERC intends to have answers to these questions about natural gas and electricity pricing BEFORE next winter?**

Answer: As noted above, immediately following the Polar Vortex events, Enforcement staff began an extensive review of natural gas and electric market data and information, in close coordination with the RTOs/ISOs and the market monitors, to determine whether any manipulative behavior may have contributed to the high natural gas prices and/or the elevated cost of electricity during this past winter. To date, enforcement staff has not found any indication that manipulative activity caused the high natural gas or electricity prices. Enforcement staff continues to investigate market performance issues related to the Polar Vortex events.

In the long-term, the Commission has several initiatives underway to continue to assess the energy and capacity markets and ensure that they are continuing to function properly. For example, as I noted in my response to Question 2, last year the Commission launched an inquiry into the centralized capacity markets in the eastern RTOs and ISOs, including PJM, to consider how their rules and structures are supporting the procurement and retention of resources necessary to meet future reliability and operational needs. In addition, in June the Commission announced that its staff will hold a series of workshops on price formation in the RTO/ISO energy and ancillary services markets. These workshops will explore potential improvements to market designs and operational practices that impact how prices in these markets are determined.

**8. In the Clean Power Plant proposed rule's Regulatory Impact Analysis, EPA notes that the Integrated Planning Model (IPM) was used to project the impact of the rule on electricity prices. The documentation for the IPM on EPA's web site explains that the model assumes both perfect competition and perfect foresight. The former means that "IPM does not explicitly capture any market imperfections such as market power, transaction costs, informational asymmetry or uncertainty." The latter "implies that agents know precisely the nature and timing of conditions in future years that affect the ultimate costs of decisions along the way." Does FERC agree that such a model can accurately capture how the proposed rule will impact prices? What are some likely differences in the actual implementation of the rule and this model?**

Answer: I am informed by staff that the IPM is one of a number of tools that may be used to project the impact of the proposed rule on electricity prices. I am not personally aware whether this model is best suited to accurately capture the price impacts of the rule.

**9. Achieving compliance with the proposed rule will require a replacement of higher carbon dioxide emitting resources with new lower or zero-emitting units. Yet a recent study by Christensen Associates commissioned by the Electric Markets Research Foundation concluded that the RTO markets "do not and cannot address long-term capacity needs." The study also found that "[b]ilateral forward contracting remains key under any market design for locking in revenues and facilitating financing of new resources. Contrary to this key necessity, however, the RTO markets include some design elements that impede long-term investments and long-term bilateral contracts." What steps does FERC intend to take to ensure that RTO markets do not impede bilateral contracting needed for new resource development that will be required for state compliance with the rule?**

Answer: As discussed in my responses to Questions 2 and 7, last year the Commission launched an inquiry into the eastern RTOs' and ISOs' centralized capacity markets to consider how their

rules and structures are supporting the procurement and retention of resources necessary to meet future reliability and operational needs. As part of that inquiry, Commission staff issued a white paper addressing certain market design aspects of the centralized capacity markets, including the role of self-supply and bilateral contracting in those markets. The Commission held a technical conference and received post-technical conference comments, where these issues were discussed at length. The Commission is continuing to evaluate capacity market issues broadly and to address specific capacity market design issues in individual docketed cases to ensure that these markets function properly and adapt as necessary to meet new challenges, including new environmental requirements.

**10. Within the retail access states, most of the generation is no longer owned by vertically-integrated utilities and instead is under merchant ownership. There is no state or local jurisdiction over these merchant generation owners regarding whether to continue to operate or close a plant or what types of generation technology should be built. Does FERC see any difficulties in implementation of the proposed rule in states with large amounts of merchant generation?**

Answer: Where economic to do so, merchant generators have made significant investment in pollution control technology to comply with environmental requirements in recent years. To the extent merchant generators participate in organized wholesale electricity markets, they are permitted to include costs incurred to comply with environmental requirements in their market bids, allowing them to recover those costs. As I indicated in my testimony, the Commission will need to consider whether adjustments to Commission-jurisdictional rates and competitive markets will be needed to ensure reliability as states implement their compliance plans.

#### **The Honorable Gene Green**

**Chairman LaFleur, in your testimony, you discuss EPA's Mercury and Air Toxics Standard or MATS. You state that EPA sought advice from FERC upon issuance. You stated that FERC issued a policy statement on potential violations MATS may induce based on FERC's reliability standard. We have a bill, HR 271, that deals with a conflict that exists between EPA enforcement and reliability.**

**1. Given the increasing complexity of EPA's regulations, does FERC anticipate additional conflicts with reliability?**

Answer: As I noted above, the Commission will need to monitor the reliability impacts of the proposed Clean Power Plan. The Clean Power Plan provides states with a number of tools for developing the state-specific or regional-coordinated compliance plans. It is the Commission's role to ensure that jurisdictional rates and markets and infrastructure are appropriately adapted to these compliance plans to ensure that reliability is maintained. Continued coordination between the EPA, FERC, RTOs/ISOs, the states and industry can help to mitigate these issues.

**You also discuss EPA's proposal and gas pipeline adequacy in your testimony stating "FERC emphasized capacity factors and existing constraints."**

**2. Do you believe EPA adequately incorporated FERC's input?**

Answer: It is evident that certain aspects of the Commission's input, such as our focus on the need for regional coordination and compliance, are reflected in the proposed rule. The proceeding is still ongoing and FERC continues to be engaged in the process.

**3. How does FERC anticipate handling increased permitting requests for natural gas pipelines if states choose EPA's regional policy option?**

Answer: It is possible that the Commission will receive an increased number of permitting requests if states choose to rely more heavily on natural gas-fired generation as part of their compliance plans. The Commission acts on all natural gas project applications as soon as the record is complete in each case, and processes multiple applications simultaneously. I anticipate that the Commission has sufficient resources to handle its natural gas workload in the foreseeable future. However, I will continue to work closely with the Office of Energy Projects to ensure that sufficient resources are dedicated to this important aspect of our work.

Attachment

To: File  
From: Mike Bardee  
Date: April 25, 2014  
Subject: Phone call on EPA's draft rule for GHG from existing power plants

On Wednesday, April 23, I and others from FERC participated in a phone call with representatives of OMB and EPA on this topic. I was joined by Jeff Dennis and Matt Vlissides from FERC. Cortney Higgins participated from OMB; EPA was represented by Reid Harvey, Jeb Stenhouse, Bill Meroney and several others.

I started by saying that our comments would focus primarily on reliability, not the economic or environmental aspects of the draft rule.

On the issue of increasing the capacity factor for natural gas combined cycle units, I said that those units operated at a capacity factor of about 45% in 2008-2013. I noted that, while those units exceeded a 60% capacity factor in July and August 2012, those were summer months, and thus off-peak for the gas system. I mentioned that this past winter, those units had a capacity factor of 46% and 41% in January and February, respectively. I said that numerous generators were unable to get gas delivered during the polar vortex and subsequent cold weather, although we do not yet know how much of this was due to a pipeline constraint instead of an overall commodity shortage. I noted that gas prices spiked in some locations, another possible indicator of constraints in the pipeline system. I said that New England, in particular, was widely viewed as having inadequate pipeline capacity. Thus, I emphasized that the issue of pipeline adequacy could warrant a regional consideration, not just a national perspective. And, I noted the difficulty of measuring capacity growth on a network, either gas or electric, but that one relevant data point was growth in total consumption, and that over 2000-2014, total gas consumption grew by about 12%. I concluded by saying that we had doubts about the ability to expand the pipeline infrastructure as quickly as the emission targets implied.

An EPA representative said that, according to their modeling, the capacity factors for combined cycle units under economic dispatch would be lower than the capacity factor embedded in the emission targets. I agreed that their modeling showed this outcome, but that we did not understand the reasons for the difference, and that public discussion of the proposed rule would likely focus on the capacity factor underlying their emission targets, not the different numbers indicated by their modeling.

I also mentioned that, apart from pipeline adequacy, other factors to consider would be the possible effects of LNG exports and of generators having to obtain and pay for firm delivery service, instead of the interruptible service widely used now.

Next, we discussed the proposal to base the emission targets on a significant increase in renewable generation. I stated that it is difficult to get transmission built for such generation when it is remote from loads, e.g., wind farms. I also noted that there are unresolved questions about the effects of relying on renewables for 20% or more of net generation. In particular, I cited the NERC/CAISO and PJM/GE studies as offering different views on the issue of ensuring adequate ancillary services. Finally, I pointed out that the State renewable targets came to “quirky” results, and that the disparate results might be hard for affected parties to understand.

Then, I noted certain aspects of infrastructure development related to both the redispatch component and the renewables component. I said that both involved significant changes in the resources used to supply load. I noted that this could lead to significant costs for new pipelines and transmission. I also explained that this shift in supply resources would require extensive and time-consuming engineering analysis of, e.g., voltage and reactive power issues. I said that such changes might be costly and difficult to achieve within the timeline of the emission targets.

I then turned to the issue of coal heat rates. I indicated that this did not seem like a major factor overall but that the improvements assumed here seemed beyond the levels suggested in a couple of studies by “NETL.” An EPA representative said, however, that the difference between the various numbers was just that some were expressed as a percentage of heat rate and others were a percentage of a facility’s overall efficiency. He said that, when the numbers were put into comparable units, the results were not inconsistent. On a separate aspect of coal heat rates, I said that the assumed cost effectiveness of the proposed improvements was hard to reconcile with the fact that owners had not yet made such changes.

Finally, I suggested that the draft should highlight two particular concepts. First, I said that EPA should not only allow, but even encourage, regional collaboration among the states, instead of state-by-state compliance, since such collaboration would likely yield significant benefits in reliability, let alone costs. Second, I said that EPA should propose some form of a “reliability safety valve,” perhaps in the context of review and approval of state plans or any subsequent modifications to those plans. I cited to the IRC proposal as one possibility to consider.

**Committee on Energy & Commerce  
Subcommittee on Energy & Power**

**Commissioner Philip Moeller's  
Answers to  
Preliminary Questions for the Federal Energy Regulatory Commission  
July 29, 2014**

The following questions relate to the U.S. Environmental Protection Agency's ("EPA") recently proposed "Clean Power Plan." See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (June 18, 2014), referred to herein as the "Proposal" or "Clean Power Plan."

Interagency and State Coordination

1. During an Energy & Power Subcommittee hearing on June 19, 2014, EPA Acting Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated that "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."<sup>1</sup>

a. Describe each consultation you have had with EPA regarding the Proposal, including where it occurred, the date(s) on which it occurred, with whom it occurred and identify any other participating agencies. Also provide details of the outcome of those consultations and relevant materials relating to those consultations.

**Answer: I have had no consultations with EPA on its proposal.**

b. Did EPA request that FERC provide written advice or an analysis regarding the potential impacts of the Proposal on the reliability of the electric grid? If yes, provide a copy of the request and any resulting advice or analysis.

**Answer: I am not aware of any request by EPA for written advice or analysis from FERC.**

c. Are you aware of any outreach by EPA to the North American Electric Reliability Corporation (NERC) regarding reliability impacts prior to issuing the Proposal? If yes, to your knowledge what was the nature of that outreach?

**Answer: I am not aware of any outreach by EPA to NERC.**

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<sup>1</sup> Further, the Proposal states that "EPA has met on several occasions with staff and managers from the Department of Energy and the Federal Energy Regulatory Commission to discuss our approach to the rule and its potential impact on the power system." See 79 Fed. Reg. at p. 34899.

2. The Proposal includes a Technical Support Document entitled “Resource Adequacy and Reliability Analysis.” *See* EPA-HQ-OAR-2013-0602-0368.

a. Did FERC prepare this analysis?

**Answer: To my knowledge, FERC did not prepare this analysis.**

b. To your knowledge, did NERC prepare this analysis?

**Answer: To my knowledge, NERC did not prepare this analysis.**

c. To your knowledge, did FERC or NERC assist in the preparation of this analysis or consult with EPA regarding its preparation or its results? Please provide relevant details and materials.

**Answer: I am not aware of FERC or NERC assistance or consultation in the preparation of the analysis or its results.**

d. Did FERC have an opportunity to review this analysis before the Proposal was announced?

**Answer: I am aware that a FERC staffer was allowed to visually review the draft rule prior to its release, but I do not know if that included this analysis.**

e. Has FERC independently reviewed this analysis? Does FERC agree with EPA’s conclusion that the “proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems”? *See* 79 Fed. Reg. at p. 34899.

**Answer: I am not aware of an independent review of this analysis by FERC.**

3. The Proposal states that the “EPA and other federal entities, including . . . the Federal Energy Regulatory Commission (FERC) . . . are committed to sharing expertise with interested states as they develop and implement their plans.” Please explain when and in what manner FERC expressly “committed” to sharing its expertise with States. Please provide relevant details and materials.

**Answer: I am not aware of any commitment by FERC to share its expertise with the states.**

Clean Power Plan Impacts on Fuel Diversity and Electric Reliability

1. Has FERC independently analyzed EPA’s Clean Power Plan to determine the impact it could have on generating unit retirements and potential impacts on fuel diversity and electric reliability? If yes, what were the results of this evaluation? If not, does FERC intend to independently analyze the Proposal to evaluate potential impacts on fuel diversity and electric reliability?

**Answer: I am not aware of any FERC independent analysis of the Clean Power Plan.**

2. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. EPA's Option 1 model specifically identifies each electric generating unit expected to retire by 2020 by name, location, and capacity. See EPA- HQ-OAR-2013-0602-0368 and EPA-HQ-OAR-2013-0602-0220.

a. Does FERC staff possess the expertise to complete an independent reliability assessment that (i) geographically plots each of the specific units identified in EPA's model for retirement and each unit that has already retired or announced retirement; and (ii) evaluates the potential regional, state, and local reliability impacts resulting from such retirements?

**Answer: I believe FERC has the expertise-along with NERC, the NERC Regional Entities, RTO's and ISO's, and the affected power plant owners-to conduct such as assessment. To my knowledge, FERC has not been asked to conduct such an assessment.**

b. Will you commit to having FERC staff complete such an independent assessment prior to October 1, 2014, so that the public may understand the potential impacts on reliability prior to submitting comments on the Proposal, due on October 16, 2014? If not, why not?

**Answer: This decision would be up to the Chair or Acting Chair of the Commission.**

#### Clean Power Plan Impacts on Electricity Markets

1. Would existing organized wholesale electricity markets have to be redesigned to implement EPA's Proposal? For example, are Regional Transmission Organizations (RTOs) prepared to transition from economic to environmental dispatch? Did EPA consult with FERC regarding the feasibility of switching from economic to environmental dispatch? What RTO implementation challenges would environmental dispatch present?

**Answer: Yes, markets would need to be fundamentally altered and redesigned to implement EPA's proposal to accommodate environmental dispatch. To my knowledge, EPA did not consult with FERC on this subject. Changing from economic dispatch to environmental dispatch is truly a fundamental change that would require a complete redesign of markets to include essentially a carbon fee on any resources that emit carbon dioxide.**

2. EPA's Proposal wrongly assumes States dispatch electricity. Given that electricity is actually dispatched by RTOs or other market operators on the basis of competitive market results, how would State compliance plans be implemented in electricity markets?

**Answer: RTOs and other market operators must comply with applicable state and federal law. It is not clear to me how State compliance plans could be implemented in electricity markets.**

a. Would a State Implementation Plan (SIP) take priority over market dispatch performed by an RTO?

**Answer: It is not clear to me how an RTO could prioritize various State Implementation Plans over its own market dispatch.**

b. Would a SIP take priority over bilateral contracts between a buyer of power in one State and a seller of power in another? If so, how, and what is the authority for this?

**Answer: It is not clear to me how State Implementation Plans would affect bilateral contracts between states.**

c. Would a State have authority to compel the continued operation of existing nuclear power plants if those plants are not being dispatched in wholesale electricity markets because their bid costs are too high compared to other generation?

**Answer: I do not believe that a state can compel a nuclear power plant to continue operations, especially if the plant is not being dispatched by the system operator.**

d. How would RTOs reconcile conflicting SIPs within a region?

**Answer: I do not know how the RTOs will be able to reconcile conflicting SIPs within a region.**

3. EPA's Proposal is silent on the treatment of purchase power agreements and interaction of energy markets for States that are net importers versus exporters. Do you believe that EPA's Proposal adequately addresses interstate power flows?

**Answer: No, I do not believe that EPA's Proposal adequately addresses interstate power flows.**

4. Do you believe that EPA's Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA's MATS rule? What impacts could this have on the owners of stranded assets, wholesale energy markets and consumer electricity costs?

**Answer: Yes, I believe that EPA's Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA's MATS rule. As for impacts, this will only raise costs to consumers.**

Increased Reliance on Natural Gas, Renewables and Energy Efficiency

1. EPA's Clean Power Plan contemplates natural gas combined cycle (NGCC) plants running at a 70% capacity factor to displace a significant amount of coal-fired generation. EPA's regulatory impact analysis projects pipeline capacity increases of 4-8% beyond base case projections by 2020.

a. Has FERC analyzed whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use?

**Answer: I am not aware of any analysis by FERC on whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use.**

b. Did EPA consult with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal?

**Answer: I am not aware of any consultation by EPA with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal.**

c. Given the challenges of gas supply in the most recent winter, and continued concerns about gas deliverability to certain parts of the country, do you agree with EPA that its modeled capacity increases are feasible by the initial compliance date of 2020?

**Answer: I am skeptical of EPA's contention that the modeled capacity increases are feasible by 2020. This is partly due to the fundamental manner in which the proposed rule would change the way that electricity is dispatched. Increased demand under the proposed rule will be addressed by adding more gas-fired generation. It's unclear what role these new plants will play in markets that have security constrained economic dispatch. Because these plants will be dispatched on merit, the owners of such plants are less likely to sign long-term contracts for gas supply. Long-term contracts (usually signed by local gas distribution companies) have provided the financial underpinnings of pipeline expansion. The new demand for pipeline gas will be from this class of generators, and it is not clear how the necessary infrastructure will be deployed and financed.**

2. Has FERC completed any electric transmission system capability and reliability analysis that demonstrates that the increases in NGCC plant utilization that EPA assumes in its Proposal could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants?

**Answer: I am not aware of any FERC analysis demonstrating that the increases in NGCC plant utilization that EPA assumes in its Proposal could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants.**

3. Has FERC analyzed the integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan? Did EPA consult with FERC regarding these integration issues?

**Answer: As far as I know, FERC has not analyzed integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan. And as far as I know, EPA has not consulted with FERC on these integration issues.**

4. Has FERC studied whether under the EPA Proposal additional transmission lines would need to be built to integrate more renewables, where the lines may be built, and how long it may take to site, permit and build these lines? Has FERC estimated the cost of transmission necessary

to supply increased renewable resources under EPA's Proposal?

**Answer: As far as I know, FERC has not studied whether additional transmission lines would need to be built under the EPA Proposal to integrate more renewables, where the lines may be built, and how long it may take to site, permit and build these lines. And as far as I know, FERC has not estimated the cost of transmission necessary to supply increased renewable resources under EPA's Proposal.**

5. The Clean Power Plan would facilitate the rapid expansion of renewable resources, particularly rooftop solar underwritten by long-term leases.

a. Has EPA requested, and has FERC conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources?

**Answer: As far as I know, EPA has not requested, and FERC has not conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources.**

b. Do you believe that rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis?

**Answer: Yes, rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis.**

6. The Clean Power Plan contemplates significant increase in energy efficiency and demand-side management. How would the increased role of energy efficiency and demand-side resources impact wholesale energy markets? Reliability? Can FERC regulate such resources, particularly given the recent court ruling vacating FERC's Order No. 745?

**Answer: The role of energy efficiency---which I fully support---is uncertain related to how this product will be treated in wholesale markets; its role in reliability is less concerning. As for demand side management, the Commission's role in fostering DSM remains clouded in light of the recent DC Circuit decision pertaining to Order 745.**

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
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WASHINGTON, DC 20515-6115  
Majority (202) 225-2927  
Minority (202) 225-3641  
August 13, 2014

The Honorable Phillip D. Moeller  
Commissioner  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Dear Commissioner Moeller:

Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 29, 2014, to testify at the hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Wednesday, August 27, 2014. Your responses should be mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed to [Nick.Abraham@mail.house.gov](mailto:Nick.Abraham@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

121

Robert Ivanauskas  
Policy Advisor  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

August 26, 2014

**By mail and e-mail**

Nick Abraham  
Legislative Clerk  
Committee on Energy and Commerce  
2125 Rayburn House Office Building  
Washington, DC 20515

Dear Mr. Abraham:

Enclosed are the responses of Commissioner Phillip Moeller to the additional questions for the record. If you have any questions, please telephone me at [REDACTED]

Sincerely,

Robert Ivanauskas

**House Energy & Commerce Committee  
Subcommittee on Energy & Power  
Hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed  
Clean Power Plan and other Grid Reliability Challenges"**

**Additional Questions for the Record for Commissioner Philip Moeller**

**Questions of the Honorable Ed Whitfield**

- 1. How many times did you or your staff meet with EPA to discuss the Clean Power Plan proposal?**

Answer: I did not meet with EPA to discuss the Clean Power Plan prior to its release. Subsequent to its release, I have heard EPA officials discuss the plan on several occasions in public forums. One of my advisors, Robert Ivanauskas, attended one private meeting prior to release of the rule which included Joe Goffman, Janet McCabe, and Chairman Cheryl LaFleur. Although EPA brought some documents to that meeting, EPA decided not to allow FERC to look at those documents.

- 2. Do you view EPA's proposed Clean Power Plan as an "energy plan" or a "pollution control" rule? Please explain your response.**

Answer: I view the Clean Power Plan as both a pollution control plan and an energy plan. The intent of the plan is to reduce carbon emissions, but its compliance options constitute an energy plan that will be enacted by the states.

- 3. Would you agree that the proposed Clean Power Plan gives EPA a certain amount of control over State decisions regarding the generation, supply and consumption of power, particularly if State renewable energy and efficiency programs are included in an EPA-approved State Implementation Plan?**

Answer: Yes, the Clean Power Plan as enforced would give the EPA a certain amount of control over State decisions on electricity policy.

- 4. As the D.C. Circuit Court recently held, FERC lacks authority to dictate how States plan and operate their energy systems. Are you aware of any statutory authority that permits EPA to mandate that States restructure their electric systems and subject State energy decisions to federal oversight and control?**

Answer: I am not aware of any such statutory authority.

- 5. To what extent does FERC have authority over State utility and resource planning? Are you aware of any statutory authority giving EPA greater authority in this area than FERC?**

Answer: FERC does not have authority over state utility and resource planning, and I am not aware of any similar authority for the EPA.

6. **EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. What do you view as the potential reliability impacts resulting from the loss of 180 gigawatts of generation over the next 6 years?**

Answer: The reliability impacts will be linked with weather patterns. As I noted in my testimony, if we have several years of relatively mild winters and summers, there may be little impact. But hoping for mild weather is not a sound strategy. I am especially concerned with areas of the Midwest, noting that market rules in the Midcontinent Independent System Operator footprint require that any electricity shortages are shared. Hence there is the potential for widespread rotating blackouts if only parts of the system experience shortages. In addition, as the polar vortex events of last winter showed, parts of the Northeast experienced very tight system conditions. Many of the units that are slated to retire in the next year were running at high capacity factors when the Eastern Interconnection was stressed last winter.

7. **Would you be supportive of EPA including in its final Clean Power Plan a "reliability safety valve" that provides FERC greater authority to prevent the retirement of reliability critical generating units? What might such a safety valve look like?**

Answer: I am absolutely supportive of a reliability safety valve. As for the details of such a safety valve, I would encourage a public dialogue on ideas to construct the most reasonable and workable plan. One component could consist of a formal decision-making process where EPA would request FERC's views and recommendations on reliability implications, and FERC would consult with NERC and regional grid operators when developing its recommendations.

8. **Has EPA advised you about how the Clean Power Plan would work in states with multiple Regional Transmission Organizations (RTOs) or states with RTO members and non-RTO members or states with no RTO members? If yes, how would the plan work according to EPA?**

Answer: I have not been advised by EPA on how the CPP would work in these situations. I realize the EPA has been publicly promoting regional solutions, but it is not clear to me how these would actually work.

9. **EPA analyzed a set of compliance scenarios referred to as "Regional" scenarios. The regional scenarios allow emission rate averaging across affected sources within six multi-state regions, informed by North American Electric Reliability Corporation (NERC) regions and Regional Transmission Organizations (RTOs). What role does FERC see for itself in overseeing such regional compliance efforts?**

Answer: Although I cannot speak for all the Commissioners consisting of FERC, I cannot imagine how FERC could oversee any aspect of compliance as this is an EPA rule, not a FERC rule.

**10. EPA's proposal specifically encourages States to consider the following strategies to reduce GHG emissions: demand-side energy efficiency programs; renewable energy standards; efficiency improvements at plants; dispatch changes; co-firing or switching to natural gas; construction of new Natural Gas Combined-Cycle plants; transmission efficiency improvements; energy storage technology; retirements; expanding renewables like wind and solar; expanding nuclear; market-based trading programs; and energy conservation programs.**

**a. Would you agree the above items relate more to energy planning than to environmental protection?**

Answer: Yes.

**b. Do you believe EPA has the expertise to be in the energy planning business?**

Answer: No.

**c. Is there anything on this list that would be within the jurisdiction of States?**

Answer: All of the strategies on this list are within the jurisdiction of the States.

**d. Is there anything on this list that may directly or indirectly impact FERC jurisdiction?**

Answer: Indirectly, switching to more natural gas would require pipeline capacity expansion, which if interstate in nature is within FERC's jurisdiction. Efficiency improvements to transmission or generation assets, energy storage technology, and the retirement of power plants may be FERC jurisdictional (from a cost recovery standpoint). Mandating changes to the dispatch of power plants would be jurisdictional to NERC, and thus jurisdictional to FERC.

**11. In July, the National Association of Regulatory Utility Commissioners (NARUC) approved a resolution seeking to:**

**preserve States' authority to decide the type, amount and timing of new or existing generation facilities that will be constructed or maintained within the State to achieve legitimate State policy objectives; ... to safeguard and guarantee States' continued right to operate programs to procure new generation or maintain existing generation for reliability, affordability and environmental purposes ...; and to ensure that nothing in the Federal Power Act be deemed to preempt or prohibit such activity by the States.**

**Do you view EPA's Clean Power Plan as impacting any of these areas which NARUC has expressly resolved to preserve? How so?**

Answer: Yes, the Clean Power Plan will impact all of these areas due to the four compliance methods in the proposed rule.

- 12. EPA estimates that its existing power plant carbon standards "will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems." Yet, the L.A. Times, in an article entitled "U.S. electricity prices may be going up for good," recently concluded that EPA's power plant retirement projections for its Mercury and Air Toxics (MATS) rule "turned out wrong almost immediately." Do you believe EPA could be again underestimating the reliability impact of its regulations?**

Answer: Absolutely, that is my biggest concern. Reliability issues are most often associated with local load pockets. There are profound reliability implications of the Clean Power Plan that need to be thoroughly discussed and studied to assure the continued reliability of the nation's bulk power system.

- 13. EPA says that "central" to its proposed rule is "[t]he fact that generation at one EGU can be substituted for generation at another." EPA seems to suggest that a megawatt generated in Illinois can substitute for a megawatt generated in New York. This seems like a simplified understanding of how the grid functions. Would you agree?**

Answer: Yes, this is a very simplified understanding of how the grid functions. The flow of electricity is ultimately governed by the laws of physics, and the laws of physics will trump written policy.

- 14. You testified that "changing from economic dispatch to environmental dispatch is truly a fundamental change that would require a complete redesign of markets to include essentially a carbon fee on any resources that emit carbon dioxide." Your position seems to conflict with the positions of Chairman LaFleur and Commissioners Bay and Norris, who contend that electricity markets will be able to integrate the Clean Power Plan requirements similar to other state and regional environmental requirements. Why is this Proposal different from previous environmental regulations that have been integrated into electricity markets?**

Answer: Previous environmental regulations have focused on plant-specific requirements. The approach under the "Clean Power Plan" is much broader and will fundamentally affect the interstate nature of the nation's electricity markets.

- 15. You raised concerns that "EPA is essentially capping the amount of national electricity consumption in 2030." Can you elaborate and do you view this as problematic?**

Answer: Essentially, the EPA is capping electricity consumption through its assumptions on load growth and how electricity load will change in the future after mandating its combination of the four compliance building blocks.

Building block one relates to improved heat rates at coal plants. There is a great deal of skepticism as to whether this is even possible, as coal generators already have the economic incentive even without the rule to decrease heat rates.

Building block two relates to increasing natural gas generation dispatch up to 70 percent. Assuming this is even operationally possible, as noted in my testimony, this appears to be a fundamental shift from “economic dispatch” to “environmental dispatch” and has the potential to completely undermine the market principles that underpin dispatch of the system.

Perhaps this “environmental dispatch” can be reconciled with “economic dispatch” if regulators can accurately calculate a carbon fee that would result in a 70% dispatch for natural gas plants. But such a fee is likely to result in significant increases in costs to consumers. This building block also assumes that there will be sufficient pipeline expansion to meet this new gas demand, which seems unlikely unless new financing models for pipeline expansion are developed given that natural gas generators are reluctant to enter into long-term contracts for new pipeline capacity.

Building block three involves the expansion of low-emitting and zero-emitting resources, essentially renewable resources. But given that non-hydropower renewable resources are intermittent in nature, they will need to be backed up by fast-responding resources, most likely more natural gas units. That will affect state compliance baselines, so it will be difficult to achieve.

That leaves building block four, improvements in energy efficiency. Although I am a longstanding supporter of improving energy efficiency, these are very aggressive goals that continue to become more challenging every year.

It’s possible that some technological breakthroughs will allow for at least some partial solutions to these challenges. Yet I am concerned when new technologies are very costly and difficult to deploy in a widespread manner.

Although there has been a great deal of discussion about national electricity consumption staying flat or decreasing, increases in gross domestic product and electricity consumption have been positively correlated. If wealth creation and economic opportunity begins to improve, it seems likely that Americans will start to use more electricity. Even today, there are growing areas of the nation—notably with increased oil and gas development—where electricity consumption is rising significantly. This presents challenges to states with growing economies and how they can enjoy economic growth while meeting compliance baselines in the Clean Power Plan. Thus, by hinging its policies on assumptions about flat or decreasing electricity growth, the EPA is essentially capping the amount of national electricity consumption in 2030.

Questions of the Honorable David B. McKinley

1. This January, during the "Polar Vortex", electricity customers in the PJM region experienced significant abrupt increases in their electricity costs, with bills rising to several times their normal levels. These price spikes were caused, in part, by significant generation outages during January, despite these generation resources receiving billions of dollars a year in advanced payments in exchange for their being available to provide energy during peak periods, whether in the extreme heat of the summer or the extreme cold of the winter. I am concerned that the causes of this situation have not been understood well enough to prevent it from happening again. Do you think you fully understand what happened and can assure us it isn't going to happen again? Has the Commission conducted a comprehensive root cause investigation and analysis of the situation, or directed PJM or the PJM Independent Market Monitor ("IMM") to do so?

a. If yes, have those results been released publicly?

b. If no, why not?

Answer: While the Commission hasn't opened a "root cause" investigation, it has been attempting to fully understand and respond to the problems that became apparent in the polar vortex events earlier this year. I have fully supported such efforts, and I am keenly interested in learning all that I can about activities undertaken by Commission staff. While I do not direct the work of staff, as I am not Chairman, staff has informed me that immediately following the Polar Vortex events, the Commission's Office of Enforcement initiated a review of the events with a focus on determining whether any manipulative or improper behavior may have contributed to the high natural gas prices and/or the elevated cost of electricity. This review is being conducted in coordination with Enforcement staff's regular surveillance program which routinely screens the natural gas and electric markets for potential manipulation or other improper conduct. Enforcement staff is also working closely with the IMM, which is also conducting its own independent review of the Polar Vortex events in PJM. Enforcement staff informs me that it has not uncovered any manipulative activity that caused the high natural gas or electricity prices. I expect that staff will continue to gather information as part of their review.

Moreover, on April 1, 2014, the Commission held a technical conference on Winter 2013/14 Operations and Market Performance in RTOs/ISOs. At this conference, the Commission looked into the impacts of the cold weather events on the RTOs/ISOs and discussed how the RTOs and ISOs responded to those impacts. At that technical conference, staff from the RTOs/ISOs provided presentations on the conditions in their market during the Polar Vortex events and how they dealt with them. In addition, Enforcement staff provided an overview of its review of the Polar Vortex and its preliminary observations. Enforcement staff's presentation is available at: <http://www.ferc.gov/CalendarFiles/20140401083844-Staff%20Presentation.pdf>.

On May 9, 2014, PJM issued a public report describing its investigation into last January's Polar Vortex events in the PJM region. The report describes several challenges PJM faced in maintaining reliability during the Polar Vortex, outlines their causes, and identifies ways improve operations and market performance. The report is available at:

<http://www.pjm.com/~media/committees-groups/task-forces/cstf/20140509/20140509-item-02-cold-weather-report.ashx>.

You also asked whether I fully understand what happened and whether I can assure Congress that it isn't going to happen again. These markets are highly complex, with the tariffs from FERC's Regional Transmission Operators consisting of thousands of pages. FERC has a full time commitment to the wholesale energy markets, as these markets fall squarely within its jurisdiction.

Even with its full time commitment to energy markets, I cannot claim that FERC fully understands everything about the polar vortex. Nor can I claim that FERC will be able to stop the next polar vortex from happening. Nevertheless, the purpose behind much of my work at FERC is to help prevent future events like the polar vortex.

Finally, all of the work performed by FERC and its staff has not been released to the public. Such work contains very sensitive market data, and its release could harm the ability of consumers to purchase energy at the best prices. And such work also contains speculation by FERC staff on how to understand this matter, the disclosure of which would harm FERC's ability to enforce its rules and tariffs. Thus, regarding the polar vortex, FERC has been following its longstanding procedures for releasing its decisions and work product.

I will continue to encourage the Chairman to allocate staff resources to understanding the events of the polar vortex, and to address any problems that have arisen because of the polar vortex.

**2. What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, to identify potential solutions to the generation performance problems that occurred during January 2014 in the PJM region?**

Answer: Staff has informed me that both the Commission and PJM have worked to identify potential solutions to generation performance issues. The April 1 technical conference on Winter 2013/14 Operations and Market Performance in RTOs/ISOs (described in response to your question 1), was an important aspect of the Commission's effort to understand the impacts and potential solutions for problems that arose during the cold weather events. Generator performance was an important topic at this event. In addition, as part of its review of the Polar Vortex events described above in my response to question 1, Enforcement staff has been working with the PJM IMM to determine whether any generators violated any existing rules governing generator performance in PJM.

Another Commission effort that highlighted generator performance is the inquiry launched last year into the centralized capacity markets in the eastern RTOs and ISOs. During a technical conference and in comments submitted after the technical conference, the Commission discussed how reliability and operational needs are being supported by the RTO/ISO rules and structures. Generator performance is an important concern that has arisen in this inquiry.

The RTOs have also considered tariff revisions that can help respond to generator performance concerns. For example, ISO-NE filed a new "Pay for Performance" capacity market design,

which the Commission approved in May. PJM is also seeking revisions to its capacity market to improve generator availability and performance during periods of high demand on the grid.

**3. Has the Commission determined whether any generation outages were reflective of attempts to manipulate market-clearing prices?**

Answer: No. The Commission has not made any such formal determination. FERC's staff has informed me that it has not concluded that any outages were attempts to manipulate market-clearing prices. I expect that staff will continue to gather information as part of their review.

**4. We understand that the delivered price of natural gas rose to historic highs in the PJM region during January 2014, and that these unprecedented delivered prices for natural gas were primarily the result of extraordinarily high prices for capacity on interstate natural gas pipelines in the PJM region. Has the Commission conducted a comprehensive root cause investigation and analysis, or directed PJM or the PJM Independent Market Monitor ("IMM") to conduct a comprehensive root cause investigation and analysis, of the unprecedented natural gas prices that surfaced in the PJM region during January 2014?**

**a. If yes, have those results been released publicly?**

**b. If no, why not?**

Answer: The complete answer to this question is my response to your question 1, as FERC's work on the polar vortex has focused heavily on natural gas prices.

**5. What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, or directed interstate natural gas pipeline operators to undertake, to identify potential solutions to the natural gas deliverability problems that occurred during January 2014 in the PJM region, either by better optimizing the use of existing assets or by constructing new assets or both?**

Answer: I am not aware of any specific efforts by the Commission, although as referenced above PJM is seeking to improve generator performance.

I have begun an effort on my own to examine whether the natural gas markets can be improved by additional transparency and liquidity after normal daily trading hours and over weekends, and if so, how this could be accomplished. I am holding a public meeting in the Commission Meeting Room at 2:00 p.m. on September 18 to discuss this topic. This has the potential to reduce volatility and natural gas prices (and consequently electricity prices) during times of very high demand.

**6. Has the Commission determined whether any natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices?**

Answer: No. The Commission has not made any such formal determination. FERC's staff has informed me that it has not concluded natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices. I expect that staff will continue to gather information as part of their review.

**7. Price increases for natural gas and electricity in the PJM region, and elsewhere, are very concerning to me. My constituents in the PJM region have asked me to ensure that markets have been, and are, functioning properly and that prices have not been increased by speculation or manipulation. It is now July, can you assure me that FERC intends to have answers to these questions about natural gas and electricity pricing BEFORE next winter?**

Answer: The Commission has several ongoing initiatives that assess the energy and capacity markets to ensure that they are continuing to function properly. For example, as described in my response to your question 2, the Commission is reviewing the centralized capacity markets in the eastern RTOs and ISOs. In addition, Commission staff will be holding a series of workshops on price formation in the RTO/ISO energy and ancillary services markets, which will explore potential improvements to market designs and operational practices that impact how prices in these markets are determined.

Additionally, see my response to question 1, which explains that Enforcement staff conducted its review of the cold weather events, which included looking at whether any manipulative or improper behavior may have contributed to the high natural gas prices and/or the elevated cost of electricity. Enforcement staff has not concluded that manipulative activity caused the high natural gas or electricity prices.

**8. In the Clean Power Plant proposed rule's Regulatory Impact Analysis, EPA notes that the Integrated Planning Model (IPM) was used to project the impact of the rule on electricity prices. The documentation for the IPM on EPA's web site explains that the model assumes both perfect competition and perfect foresight. The former means that "IPM does not explicitly capture any market imperfections such as market power, transaction costs, informational asymmetry or uncertainty." The latter "implies that agents know precisely the nature and timing of conditions in future years that affect the ultimate costs of decisions along the way." Does FERC agree that such a model can accurately capture how the proposed rule will impact prices? What are some likely differences in the actual implementation of the rule and this model?**

Answer: Although I cannot speak for the agency, based on your above description of the IPM model, that model appears to have substantial limitations and is unlikely to be an accurate model of price impacts. The most likely differences between the model and actual implementation are

going to be higher prices than what the model predicts.

**9. Achieving compliance with the proposed rule will require a replacement of higher carbon dioxide emitting resources with new lower or zero-emitting units. Yet a recent study by Christensen Associates commissioned by the Electric Markets Research Foundation concluded that the RTO markets "do not and cannot address long-term capacity needs." The study also found that "[b]ilateral forward contracting remains key under any market design for locking in revenues and facilitating financing of new resources. Contrary to this key necessity, however, the RTO markets include some design elements that impede long-term investments and long-term bilateral contracts." What steps does FERC intend to take to ensure that RTO markets do not impede bilateral contracting needed for new resource development that will be required for state compliance with the rule?**

Answer: As referenced above, FERC has an ongoing review of existing capacity markets that was initiated approximately one year ago. I am not aware of staff's specific next steps in this effort, although the above-referenced effort to improve "price formation" is certainly related to this general topic. Staff informs me that technical conferences on price formation will be announced in the near future. Simply put, if we can improve price formation, the need for major changes in capacity markets is lessened.

Specifically to your question, I do not know what steps this agency will take, but I believe that my vote on this Commission will offer me an opportunity to help shape and improve the ultimate actions taken by this Commission. FERC will need to watch this issue very carefully, as it has the potential to alter the competitive nature of wholesale markets.

**10. Within the retail access states, most of the generation is no longer owned by vertically integrated utilities and instead is under merchant ownership. There is no state or local jurisdiction over these merchant generation owners regarding whether to continue to operate or close a plant or what types of generation technology should be built. Does FERC see any difficulties in implementation of the proposed rule in states with large amounts of merchant generation?**

Answer: Although I do not speak for all of FERC, my biggest concern relates to whether there will be sufficient pipeline capacity to supply the natural gas needed for electric generation. Pipelines have traditionally been financed through long-term contracts with local gas distribution companies. The emerging customer class for new pipelines consists of electric generators, but in competitive markets these plants are called to perform based on economic dispatch, as opposed to being baseload units. Hence, historically they have not signed long-term contracts that would assist in the financing of new pipelines, and I have no expectation that they will suddenly want to sign long-term contracts unless their incentives change. Unless this challenge is addressed, sufficient pipeline capacity may not be available to meet the natural gas generation needs imposed by the Clean Power Plan.

**Responses of Commissioner John Norris  
To Committee on Energy & Commerce  
Subcommittee on Energy & Power  
Preliminary Questions for the Federal Energy Regulatory Commission  
July 29, 2014**

The following questions relate to the U.S. Environmental Protection Agency's ("EPA") recently proposed "Clean Power Plan." See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (June 18, 2014), referred to herein as the "Proposal" or "Clean Power Plan."

**Interagency and State Coordination**

1. During an Energy & Power Subcommittee hearing on June 19, 2014, EPA Acting Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated that "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."

a. Describe each consultation you have had with EPA regarding the Proposal, including where it occurred, the date(s) on which it occurred, with whom it occurred and identify any other participating agencies. Also provide details of the outcome of those consultations and relevant materials relating to those consultations.

Answer: To date, I have not consulted with EPA regarding the Proposal.

b. Did EPA request that FERC provide written advice or an analysis regarding the potential impacts of the Proposal on the reliability of the electric grid? If yes, provide a copy of the request and any resulting advice or analysis.

Answer: Please see Chairman Cheryl LaFleur's response.

c. Are you aware of any outreach by EPA to the North American Electric Reliability Corporation (NERC) regarding reliability impacts prior to issuing the Proposal? If yes, to your knowledge what was the nature of that outreach?

Answer: I am not aware whether or not there has been outreach by EPA to NERC.

2. The Proposal includes a Technical Support Document entitled "Resource Adequacy and Reliability Analysis." See EPA-HQ-OAR-2013-0602-0368.

a. Did FERC prepare this analysis?

Answer: Please see Chairman Cheryl LaFleur's response.

b. To your knowledge, did NERC prepare this analysis?

Answer: To my knowledge, NERC did not prepare this analysis.

- c. To your knowledge, did FERC or NERC assist in the preparation of this analysis or consult with EPA regarding its preparation or its results? Please provide relevant details and materials.

Answer: It is my understanding that FERC staff had discussions with EPA regarding the proposal. Please see Chairman Cheryl LaFleur's response for more detail.

- d. Did FERC have an opportunity to review this analysis before the Proposal was announced?

Answer: Please see Chairman Cheryl LaFleur's response.

- e. Has FERC independently reviewed this analysis? Does FERC agree with EPA's conclusion that the "proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems"? See 79 Fed. Reg. at p. 34899.

Answer: Please see Chairman Cheryl LaFleur's response.

3. The Proposal states that the "EPA and other federal entities, including . . . the Federal Energy Regulatory Commission (FERC) . . . are committed to sharing expertise with interested states as they develop and implement their plans." Please explain when and in what manner FERC expressly "committed" to sharing its expertise with States. Please provide relevant details and materials.

Answer: Please see Chairman Cheryl LaFleur's response.

#### Clean Power Plan Impacts on Fuel Diversity and Electric Reliability

1. Has FERC independently analyzed EPA's Clean Power Plan to determine the impact it could have on generating unit retirements and potential impacts on fuel diversity and electric reliability? If yes, what were the results of this evaluation? If not, does FERC intend to independently analyze the Proposal to evaluate potential impacts on fuel diversity and electric reliability?

Answer: Please see Chairman Cheryl LaFleur's response.

2. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. EPA's Option 1 model specifically identifies each electric generating unit expected to retire by 2020 by name, location, and capacity. See EPA-HQ-OAR-2013-0602-0368 and EPA-HQ-OAR-2013-0602-0220.

- a. Does FERC staff possess the expertise to complete an independent reliability assessment that (i) geographically plots each of the specific units identified in EPA's model for retirement and each unit that has already retired or announced retirement; and (ii) evaluates the potential regional, state, and local reliability impacts resulting from such retirements?

Answer: I believe that FERC staff possesses the expertise to complete an independent reliability assessment. I am open to FERC staff performing an independent reliability assessment, but question whether a study would be sufficiently informative. EPA's Clean Power Plan provides for a significant amount of flexibility for states to comply using a variety of tools. This creates considerable uncertainty in predicting future outcomes and makes it difficult to establish the assumptions necessary to create an accurate system for modeling that might be

helpful to planners and policymakers. But, I believe that such flexibility has the added benefit of allowing states to identify compliance approaches that limit reliability impacts. When faced with the need to respond to EPA's MATS rule, system planners including RTOs and utilities have been working with state and federal representatives to share needed information and analyze the possible impact regarding potential retirements. I expect that such collaboration would continue in response to EPA's proposal, and that system planners will appropriately consider potential retirements and plan accordingly.

- b. Will you commit to having FERC staff complete such an independent assessment prior to October 1, 2014, so that the public may understand the potential impacts on reliability prior to submitting comments on the Proposal, due on October 16, 2014? If not, why not?**

Answer: Please see Chairman Cheryl LaFleur's response.

#### **Clean Power Plan Impacts on Electricity Markets**

- 1. Would existing organized wholesale electricity markets have to be redesigned to implement EPA's Proposal? For example, are Regional Transmission Organizations (RTOs) prepared to transition from economic to environmental dispatch? Did EPA consult with FERC regarding the feasibility of switching from economic to environmental dispatch? What RTO implementation challenges would environmental dispatch present?**

Answer: Existing organized wholesale electricity markets are constantly being evaluated to determine whether rule modifications are necessary as the dynamics of our electric grid change. For example, over half of the states have implemented an RPS standard or goal, and the Commission has incorporated market rule changes to appropriately account for those state policy goals. With the influx of wind and solar resources, the Commission issued a final rule on variable energy resources to better accommodate the scheduling of such resources in a manner that ensures reliability. More recently, the industry and FERC are grappling with potential market changes needed to accommodate the dramatic increase in reliance upon natural gas as a fuel source for producing electricity. In sum, we will continue to evaluate our market design and rules to accommodate the changing resource mixes in the different regions of the United States that have been brought on by moderate natural gas prices, state RPS goals and environmental regulations like EPA's MATS rule. I am not aware of any proposals from the RTOs or EPA to switch from economic to environmental dispatch and cannot comment on the feasibility of or challenges to environmental dispatch.

- 2. EPA's Proposal wrongly assumes States dispatch electricity. Given that electricity is actually dispatched by RTOs or other market operators on the basis of competitive market results, how would State compliance plans be implemented in electricity markets?**

Answer: Please see my answers below.

- a. Would a State Implementation Plan (SIP) take priority over market dispatch performed by an RTO?**

Answer: State Implementation Plans can be designed to work together with RTO market dispatch to avoid the need for prioritization. The market structures in regions with RTOs provide opportunities for states to include market-based mechanisms for controlling carbon such as a cap-and-trade program or a carbon tax. For example, California has implemented a cap-and-trade program that has been integrated into the California ISO's market dispatch. If, however, there is a need for prioritization, RTOs have considerable experience accommodating resource operational restrictions into the market dispatch.

**b. Would a SIP take priority over bilateral contracts between a buyer of power in one State and a seller of power in another? If so, how, and what is the authority for this?**

Answer: I believe we will be unable to determine whether a State Implementation Plan takes priority over bilateral contracts until the plans are finalized and implemented. Even then, I think that such a finding would require a review of not only the individual State Implementation Plans, but also the specific terms of individual bilateral contracts, and applicable law.

**c. Would a State have authority to compel the continued operation of existing nuclear power plants if those plants are not being dispatched in wholesale electricity markets because their bid costs are too high compared to other generation?**

Answer: While the U.S. Department of Energy has authority under Federal Power Act section 202(c) to direct the operation of electric generation plants in order to maintain reliability during an emergency, I am unaware as to whether states have similar authority to compel the continued operation of existing nuclear power plants based on the circumstances described above.

**d. How would RTOs reconcile conflicting SIPs within a region?**

Answer: RTOs have significant experience reconciling policies developed by individual states within their footprint that are not necessarily aligned. For example, RTOs have successfully established and met system resource adequacy requirements despite the fact that their individual states have different reserve margin targets. RTOs have also accommodated states with different RPS goals, including those states with no RPS whatsoever. Regional state committees – such as the Organization of MISO States on which I served – are instrumental in working with RTOs to manage and resolve differences in state policies.

**3. EPA's Proposal is silent on the treatment of purchase power agreements and interaction of energy markets for States that are net importers versus exporters. Do you believe that EPA's Proposal adequately addresses interstate power flows?**

Answer: Concurrently with the issuance of the proposed rule, EPA released a technical support document entitled "Resource Adequacy and Reliability Analysis" that models and examines interstate power flows under EPA's proposal. It is my understanding that EPA's analysis is similar to methods used by industry to evaluate resource adequacy, and I have no basis to conclude that the analysis is inadequate. However, I believe this issue highlights the benefits of a regional approach to compliance, which I strongly encourage states to consider.

**4. Do you believe that EPA's Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA's MATS rule? What impacts could this have on the owners of stranded assets, wholesale energy markets and consumer electricity costs?**

Answer: It is my understanding that the EPA proposal allows for significant flexibility and long compliance timelines for states to best meet the EPA's goals, which should minimize the potential for stranded financial investments. I expect that states would consider the potential for stranded financial investments when they develop and implement their State Implementation Plans.

**Increased Reliance on Natural Gas, Renewables and Energy Efficiency**

1. EPA's Clean Power Plan contemplates natural gas combined cycle (NGCC) plants running at a 70% capacity factor to displace a significant amount of coal-fired generation. EPA's regulatory impact analysis projects pipeline capacity increases of 4-8% beyond base case projections by 2020.

- a. Has FERC analyzed whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use?

Answer: Please see Chairman Cheryl LaFleur's response.

- b. Did EPA consult with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal?

Answer: Please see Chairman Cheryl LaFleur's response.

- c. Given the challenges of gas supply in the most recent winter, and continued concerns about gas deliverability to certain parts of the country, do you agree with EPA that its modeled capacity increases are feasible by the initial compliance date of 2020?

Answer: My understanding is that EPA's modeled capacity increases in natural gas infrastructure are challenging but not impossible to achieve. The issue of additional natural gas infrastructure needed to support increased natural-gas fired generation is an area of concern that FERC has and will continue to address. There already has been a dramatic increase in reliance upon natural gas to produce electricity in recent years. This has led to concerns over the last several years, particularly in the Northeast, as to whether there is sufficient natural gas infrastructure to serve natural gas-fired generation facilities and ensure reliability. These concerns predate EPA's Clean Power Plan and would be something the country needs to address regardless. My understanding is that there are regional initiatives to add gas infrastructure that are being developed. Additionally, I believe that one way to ensure that we have sufficient infrastructure where needed is to maximize the use of existing gas pipeline facilities. In that respect, the Commission has been responsive by issuing rules addressing gas scheduling, and communications to facilitate a more efficient use of our existing infrastructure.

2. Has FERC completed any electric transmission system capability and reliability analysis that demonstrates that the increases in NGCC plant utilization that EPA assumes in its Proposal 4 could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants?

Answer: Please see Chairman Cheryl LaFleur's response.

3. Has FERC analyzed the integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan? Did EPA consult with FERC regarding these integration issues?

Answer: Please see Chairman Cheryl LaFleur's response.

4. Has FERC studied whether under the EPA Proposal additional transmission lines would need to be built to integrate more renewables, where the lines may be built, and how long it may take to site,

**permit and build these lines? Has FERC estimated the cost of transmission necessary to supply increased renewable resources under EPA's Proposal?**

Answer: Please see Chairman Cheryl LaFleur's response.

**5. The Clean Power Plan would facilitate the rapid expansion of renewable resources, particularly rooftop solar underwritten by long-term leases.**

**a. Has EPA requested, and has FERC conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources?**

Answer: Please see Chairman Cheryl LaFleur's response.

**b. Do you believe that rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis?**

Answer: Our energy infrastructure is in a time of incredible change and transition. One aspect of that change is the increased use of variable energy resources (VERs). These new resources have certainly posed challenges to the function of the grid. However, with technology improvements, and increased knowledge of how such resources operate, I believe this transition will happen in a way that is effective and efficient. FERC is trying to ensure that all resources can participate on a level playing field in order to ensure an efficient and reliable energy supply. For example, FERC recently issued a rulemaking on VERs by requiring transmission providers to offer customers the option of scheduling transmission service at 15-minute intervals and by requiring generators using VERs to provide transmission owners with certain data to support power production forecasting.

**6. The Clean Power Plan contemplates significant increase in energy efficiency and demand-side management. How would the increased role of energy efficiency and demand-side resources impact wholesale energy markets? Reliability? Can FERC regulate such resources, particularly given the recent court ruling vacating FERC's Order No. 745?**

Answer: Greater ability for load to consider and respond to price signals adds elasticity to the demand curve, and increases system efficiency. Demand response and energy efficiency have been valuable in allowing for such demand-side management. As you may be aware, the Commission recently asked for rehearing of the D.C. Circuit Court's decision regarding Order No. 745. In the meantime, the Commission is assessing the impact of the Court's ruling on our regulation of demand response. I believe that, regardless of a final court decision on the Commission's rehearing request and how the Commission would implement that final decision, these resources will continue to be essential to our energy future. Energy efficiency reduces the amount of investment that we need to make in energy infrastructure by lowering overall demand and demand response give consumers an opportunity to modify and reduce their consumption of electricity, and therefore how much they pay for electricity. This is good for consumers. It is also good for the reliability of the electricity grid. During the recent polar vortex events of this past winter, demand response was an essential resource to meeting system needs.

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
2125 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515-6115  
Majority (202) 225-2927  
Minority (202) 225-3641  
August 13, 2014<sup>1</sup>

The Honorable John R. Norris  
Commissioner  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Dear Commissioner Norris:

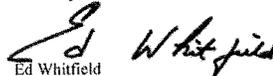
Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 29, 2014, to testify at the hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Wednesday, August 27, 2014. Your responses should be mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed to [Nick.Abraham@mail.house.gov](mailto:Nick.Abraham@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

139

Jehmal Hudson  
House Liaison  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426  
August 27, 2014

Nick Abraham  
Legislative Clerk  
Committee on Energy and Commerce  
2125 Rayburn House Office Building  
Washington, DC 20515

Dear Mr. Abraham:

Enclosed are the responses of Commissioner John Norris to the additional questions for the record. If you have any questions, please telephone me at [REDACTED].

Sincerely,

Jehmal Hudson

**House Energy & Commerce Committee  
Subcommittee on Energy & Power  
Hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed  
Clean Power Plan and other Grid Reliability Challenges"  
Additional Questions for the Record for Commissioner John Norris**

The Honorable Ed Whitfield

- 1. How many times did you or your staff meet with EPA to discuss the Clean Power Plan proposal?**

I did not meet with the EPA on the Clean Power Plan nor did my staff.

- 2. Do you view EPA's proposed Clean Power Plan as an "energy plan" or a "pollution control" rule? Please explain your response.**

"Pollution Control" - The Clean Power Plan is to reduce harmful greenhouse gas emissions. It impacts our energy sector because that is a major source of greenhouse gases but it is not an energy plan. As you may recall from my oral and also my written testimony I believe Congress needs to enact an "Energy Plan" and by doing so could incorporate limits on greenhouses gases through a carbon tax, cap and trade program or some other means. I believe this would enable us to achieve reductions in greenhouse gas emissions much more efficiently.

- 3. Would you agree that the proposed Clean Power Plan gives EPA a certain amount of control over State decisions regarding the generation, supply and consumption of power, particularly if State renewable energy and efficiency programs are included in an EPA-approved State Implementation Plan?**

I think the Clean Power Plan will do what it is intended to do, reduce harmful greenhouse gas emissions. How a state wants to reduce those emissions in its energy sector is still up to the states as the Plan provides flexibility or multiple pathways for a state to achieve a reduction in greenhouse gas emissions.

- 4. As the D.C. Circuit Court recently held, FERC lacks authority to dictate how States plan and operate their energy systems. Are you aware of any statutory authority that permits EPA to mandate that States restructure their electric systems and subject State energy decisions to federal oversight and control?**

Energy decisions are still up to the states. They just can't have an energy production system that pollutes the air for present and future generations. Protecting our environment is not something new the EPA is doing, it is the very purpose and essence of its existence and thankfully so.

- 5. To what extent does FERC have authority over State utility and resource planning? Are you aware of any statutory authority giving EPA greater authority in this area than FERC?**

Again, states still have control of their utility and resource planning as they did before but now there are limits on how much harm the generation of electricity in their states can do to our environment.

- 6. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized**

**Mercury and Air Toxics (MATS) rule. What do you view as the potential reliability impacts resulting from the loss of 180 gigawatts of generation over the next 6 years?**

As I stated in my testimony, continuous communication and coordination between the EPA, states, FERC, NERC and stakeholders will need to take place to ensure this transition to a lower carbon generation sector can be done safely and reliably. Retirement of generation sources can be addressed in multiple ways. I don't presume it will be easy but I also believe we are capable of achieving a cleaner environment and a more sustainable energy system without sacrificing reliability.

7. **Would you be supportive of EPA including in its final Clean Power Plan a "reliability safety valve" that provides FERC greater authority to prevent the retirement of reliability critical generating units? What might such a safety valve look like?**

I believe the multiple potential extensions and the process for input by FERC for the MATS Rule could be a useful model in evaluation of potential safety valves for the Clean Power Plan.

8. **Has EPA advised you about how the Clean Power Plan would work in states with multiple Regional Transmission Organizations (RTOs) or states with RTO members and non-RTO members or states with no RTO members? If yes, how would the plan work according to EPA?**

As previously stated, I have not met or been advised by the EPA on the Clean Power Plan.

9. **EPA analyzed a set of compliance scenarios referred to as "Regional" scenarios. The regional scenarios allow emission rate averaging across affected sources within six multi-state regions, inform (ed?) by North American Electric Reliability Corporation (NERC) regions and Regional Transmission Organizations (RTOs). What role does FERC see for itself in overseeing such regional compliance efforts?**

As I am no longer a Commissioner I will defer to Chairman LaFleur's response.

10. **A Bloomberg article recently quoted you as stating that the U.S. is already almost halfway to meeting the emissions targets set under the EPA's proposed greenhouse gas rule, thanks to the 2005 base year selected by the agency."**

- a. **Do you now understand that the emissions rate baseline used by EPA is actually 2012, and not 2005?**

My understanding when I was quoted by Bloomberg was that 2005 emissions were utilized to establish the base year for setting the goal of a 30% reduction in greenhouse gas emissions by 2030. While not referenced in the article or your question it was my understanding that 2012 emissions were utilized as the benchmark for states going forward. I'm not certain I understand if differently now as you stated in your question but I will admit I have found the EPA explanation of these distinctions confusing at times.

- b. **Wouldn't you agree that a 2012 baseline makes compliance a considerably heavier lift than a 2005 baseline? Why or why not?**

I think whether you use 2005 or 2012 as the "baseline" for measuring a 30% reduction in greenhouse gas emissions we are only at the tip of a melting iceberg. The intent of all of this is to reduce our

carbon emissions to a level where catastrophic climate change can be prevented. To achieve that goal we need to take the next step of targeting an 80% reduction of 2005 emissions by 2050. The less we do now the more difficult the next step becomes so whichever, 2005 or 2012 is the heavier lift we should be pursuing it.

11. **During the hearing, in response to a question from Rep. Waxman, you stated:**

**...it is a gradual transition that is already occurring. We are already not building coal plants because the science is not changing. We are already having, as Commissioner LaFleur said, the advent of gas coming that is impacting the system, that is as a result of technology, the fracking technology, so science and technology is driving this change, not EPA.**

**If, as you testified, the transition is "already occurring" and that science and technology, not EPA, is driving this transition, why do you believe EPA's Clean Power Plan is necessary?**

In a word, certainty. The science is so overwhelming regarding climate change that nearly everyone I have spoken with in the electric industry assumes that at some point the U.S. and other nations will have to take action. The uncertainty about what action and when, is impacting investment in electric generation and a wide range of energy technologies. The Clean Power Plan is the most significant governmental action to date that gives this industry some much needed direction. That is also why I have stated I believe the better and more efficient course of action would be for Congress to enact a carbon policy. Legislation such as a carbon tax or cap and trade program would provide significantly more certainty for investment in clean energy technologies. By doing so I believe you could enable the United States to minimize the costs for building a sustainable, clean energy industry and create jobs for Americans by taking advantage of the expanding global marketplace for clean energy technologies.

The Honorable David B. McKinlev

1. **This January, during the "Polar Vortex", electricity customers in the PJM region experienced significant abrupt increases in their electricity costs, with bills rising to several times their normal levels. These price spikes were caused, in part, by significant generation outages during January, despite these generation resources receiving billions of dollars a year in advanced payments in exchange for their being available to provide energy during peak periods, whether in the extreme heat of the summer or the extreme cold of the winter. I am concerned that the causes of this situation have not been understood well enough to prevent it from happening again. Do you think you fully understand what happened and can assure us it isn't going to happen again? Has the Commission conducted a comprehensive root cause investigation and analysis of the situation, or directed PJM or the PJM Independent Market Monitor ("IMM") to do so?**

a. **If yes, have those results been released publicly?**

b. **If no, why not?**

I will defer to Chairman LaFleur's responses regarding Commission action.

2. **What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, to identify potential solutions to the generation performance problems that occurred during January 2014 in the PJM region?**

I will defer to Chairman LaFleur's responses regarding Commission action.

3. **Has the Commission determined whether any generation outages were reflective of attempts to manipulate market-clearing prices?**

I will defer to Chairman LaFleur's responses regarding Commission action.

4. **We understand that the delivered price of natural gas rose to historic highs in the PJM region during January 2014, and that these unprecedented delivered prices for natural gas were primarily the result of extraordinarily high prices for capacity on interstate natural gas pipelines in the PJM region. Has the Commission conducted a comprehensive root cause investigation and analysis, or directed PJM or the PJM Independent Market Monitor ("IMM") to conduct a comprehensive root cause investigation and analysis, of the unprecedented natural gas prices that surfaced in the PJM region during January 2014?**

a. **If yes, have those results been released publicly?**

b. **If no, why not?**

I will defer to Chairman LaFleur's responses regarding Commission action.

5. **What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, or directed interstate natural gas pipeline operators to undertake, to identify potential solutions to the natural gas deliverability problems that occurred during January 2014 in the PJM region, either by better optimizing the use of existing assets or by constructing new assets or both?**

I will defer to Chairman LaFleur's responses regarding Commission action.

6. **Has the Commission determined whether any natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices?**

I will defer to Chairman LaFleur's responses regarding Commission action.

7. **Price increases for natural gas and electricity in the PJM region, and elsewhere, are very concerning to me. My constituents in the PJM region have asked me to ensure that markets have been, and are, functioning properly and that prices have not been increased by speculation or manipulation. It is now July, can you assure me that FERC intends to have answers to these questions about natural gas and electricity pricing BEFORE next winter?**

I will defer to Chairman LaFleur's responses regarding Commission action.

8. **In the Clean Power Plant proposed rule's Regulatory Impact Analysis, EPA notes that the Integrated Planning Model (IPM) was used to project the impact of the rule on electricity prices. The documentation for the IPM on EPA's web site explains that the model assumes both perfect competition and perfect foresight. The former means that "IPM does not explicitly capture any market imperfections such as market power, transaction costs, informational asymmetry or uncertainty." The latter "implies that agents know precisely the nature and timing of conditions in future years that affect the ultimate costs of decisions along the way." Does FERC agree that such a model can accurately capture how the proposed rule will impact prices? What are some likely differences in the actual implementation of the rule and this model?**

I will defer to Chairman LaFleur's responses regarding Commission action.

9. **Achieving compliance with the proposed rule will require a replacement of higher carbon dioxide emitting resources with new lower or zero-emitting units. Yet a recent study by Christensen Associates commissioned by the Electric Markets Research Foundation concluded that the RTO markets "do not and cannot address long-term capacity needs." The study also found that "[b]ilateral forward contracting remains key under any market design for locking in revenues and facilitating financing of new resources. Contrary to this key necessity, however, the RTO markets include some design elements that impede long-term investments and long-term bilateral contracts." What steps does FERC intend to take to ensure that RTO markets do not impede bilateral contracting needed for new resource development that will be required for state compliance with the rule?**

I will defer to Chairman LaFleur's responses regarding Commission action.

10. **Within the retail access states, most of the generation is no longer owned by vertically-integrated utilities and instead is under merchant ownership. There is no state or local jurisdiction over these merchant generation owners regarding whether to continue to operate or close a plant or what types of generation technology should be built. Does FERC see any difficulties in implementation of the proposed rule in states with large amounts of merchant generation?**

I will defer to Chairman LaFleur's responses regarding Commission action.

Responses of Commissioner Tony Clark

**Committee on Energy & Commerce  
Subcommittee on Energy & Power  
Preliminary Questions for the Federal Energy Regulatory Commission  
July 29, 2014**

The following questions relate to the U.S. Environmental Protection Agency's ("EPA") recently proposed "Clean Power Plan." See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (June 18, 2014), referred to herein as the "Proposal" or "Clean Power Plan."

**Interagency and State Coordination**

1. During an Energy & Power Subcommittee hearing on June 19, 2014, EPA Acting Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated that "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."

a. Describe each consultation you have had with EPA regarding the Proposal, including where it occurred, the date(s) on which it occurred, with whom it occurred and identify any other participating agencies. Also provide details of the outcome of those consultations and relevant materials relating to those consultations.

*Answer: EPA did not consult with me.*

b. Did EPA request that FERC provide written advice or an analysis regarding the potential impacts of the Proposal on the reliability of the electric grid? If yes, provide a copy of the request and any resulting advice or analysis.

*Answer: EPA did not request this of me or my office. As to FERC generally, please refer to Chairman LaFleur's response.*

c. Are you aware of any outreach by EPA to the North American Electric Reliability Corporation (NERC) regarding reliability impacts prior to issuing the Proposal? If yes, to your knowledge what was the nature of that outreach?

*Answer: If EPA did so, I am unaware of it.*

2. The Proposal includes a Technical Support Document entitled "Resource Adequacy and Reliability Analysis." See EPA-HQ-OAR-2013-0602-0368.

a. Did FERC prepare this analysis?

*Answer: Please refer to Chairman LaFleur's response.*

b. To your knowledge, did NERC prepare this analysis?

*Answer: I do not know.*

## Responses of Commissioner Tony Clark

c. To your knowledge, did FERC or NERC assist in the preparation of this analysis or consult with EPA regarding its preparation or its results? Please provide relevant details and materials.

*Answer:* I did not. As to FERC generally, please refer to Chairman LaFleur's response.

d. Did FERC have an opportunity to review this analysis before the Proposal was announced?

*Answer:* I did not have an opportunity to review the proposal.

e. Has FERC independently reviewed this analysis? Does FERC agree with EPA's conclusion that the "proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems"? See 79 Fed. Reg. at p. 34899.

*Answer:* It is my understanding that FERC staff is reviewing the analysis. Due to the ambiguity of the EPA proposal at this time, I am not able to personally verify the conclusion that the "proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems." Assuming the rule survives legal challenge, I believe it is imperative there be an independent, third-party review of the state, regional or federal implementation plans that arise from it to ensure that, as they are stitched together, the bulk power system remains reliable.

3. The Proposal states that the "EPA and other federal entities, including . . . the Federal Energy Regulatory Commission (FERC) . . . are committed to sharing expertise with interested states as they develop and implement their plans." Please explain when and in what manner FERC expressly "committed" to sharing its expertise with States. Please provide relevant details and materials.

*Answer:* While I am always willing to engage in dialogue with my state colleagues regarding issues of mutual interest, including the impact of EPA rules, I am unsure of EPA's specific reference.

#### **Clean Power Plan Impacts on Fuel Diversity and Electric Reliability**

1. Has FERC independently analyzed EPA's Clean Power Plan to determine the impact it could have on generating unit retirements and potential impacts on fuel diversity and electric reliability? If yes, what were the results of this evaluation? If not, does FERC intend to independently analyze the Proposal to evaluate potential impacts on fuel diversity and electric reliability?

*Answer:* To my knowledge, FERC has not conducted such analysis. I would be supportive of such an analysis and believe FERC could provide a valuable service to EPA, Congress and the states by doing so. It would be difficult to conduct one at this time, however, since no one yet knows how the rule will be implemented.

2. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. EPA's Option 1 model specifically identifies each electric generating unit expected to retire by 2020 by name, location, and capacity. See EPA-HQ-OAR-2013-0602-0368 and EPA-HQ-OAR-2013-0602-0220.

a. Does FERC staff possess the expertise to complete an independent reliability assessment that (i) geographically plots each of the specific units identified in EPA's model for retirement and each unit that has

Responses of Commissioner Tony Clark

already retired or announced retirement; and (ii) evaluates the potential regional, state, and local reliability impacts resulting from such retirements?

*Answer:* Yes, though as Chairman LaFleur notes in her response, any analysis would be highly dependent on the assumptions made regarding inputs to the model.

b. Will you commit to having FERC staff complete such an independent assessment prior to October 1, 2014, so that the public may understand the potential impacts on reliability prior to submitting comments on the Proposal, due on October 16, 2014? If not, why not?

*Answer:* As I noted previously, a FERC analysis of the potential impacts on reliability could prove valuable. I am concerned we would be unable to produce much of value by October however, because the EPA proposed rule is so vaguely defined in terms of what would constitute acceptable compliance.

#### **Clean Power Plan Impacts on Electricity Markets**

1. Would existing organized wholesale electricity markets have to be redesigned to implement EPA's Proposal? For example, are Regional Transmission Organizations (RTOs) prepared to transition from economic to environmental dispatch? Did EPA consult with FERC regarding the feasibility of switching from economic to environmental dispatch? What RTO implementation challenges would environmental dispatch present?

*Answer:* There has been some speculation that the state and regional carbon compliance plans might envision requesting FERC to authorize the various RTOs to transition away from the security constrained economic dispatch model towards some form of dispatch based on carbon emissions. Some have even suggested RTOs themselves should impose a carbon cost on the market before dispatching units. Any such changes to the markets would clearly require FERC approval. Should such proposals be filed, we would have to consider whether they are permissible under the Federal Power Act. As Chairman LaFleur notes, the Commission has allowed RTOs to acknowledge the operating limits of certain plants. Also the Commission allows generators to recognize various governmentally imposed costs like taxes and cap-and-trade schemes, but this is simply a matter of allowing generators to bid-in costs they have legally incurred. To go beyond that by changing the fundamental market dispatch algorithms in the ways some have suggested would be a major change, to say the least. EPA did not consult with me regarding this issue. I am unaware if they consulted with other FERC employees or Commissioners.

2. EPA's Proposal wrongly assumes States dispatch electricity. Given that electricity is actually dispatched by RTOs or other market operators on the basis of competitive market results, how would State compliance plans be implemented in electricity markets?

*Answer:* If a state compliance plan envisioned changes in market operations, such changes would need to be proposed to and approved by FERC. The implementation of state compliance plans would strongly depend on the methodology(ies) used to achieve compliance with the Proposal. As a general matter, implementation issues in regional markets could increase in complexity as the variability between state implementation plans in a region increases.

a. Would a State Implementation Plan (SIP) take priority over market dispatch performed by an RTO?

## Responses of Commissioner Tony Clark

Answer:

*As stated in my previous answer, changes to FERC-regulated wholesale markets caused by state compliance plans would have to be proposed to, and approved by, FERC. If those changes were approved, the extent to which market dispatch is reprioritized would largely depend on the specific nature of the state compliance plan. An environmental-based dispatch mechanism, as discussed above, would alter security constrained economic dispatch by shifting the priority towards carbon output. On a smaller scale, a state compliance plan that achieves reductions by placing limits on an individual plant's operations would also reprioritize market dispatch for that unit.*

b. Would a SIP take priority over bilateral contracts between a buyer of power in one State and a seller of power in another? If so, how, and what is the authority for this?

Answer: *Any wholesale sale of electricity such as bilateral contracts entails some form of FERC oversight; however, the terms of such sales can be highly specific so I would hesitate to predict how a SIP might affect these contracts.*

c. Would a State have authority to compel the continued operation of existing nuclear power plants if those plants are not being dispatched in wholesale electricity markets because their bid costs are too high compared to other generation?

Answer: *States do not have authority to unilaterally compel dispatch of a unit in a FERC jurisdictional wholesale market; however, states retain many regulatory tools at their disposal that could ensure the continued viability of nuclear plants, even if they are facing difficult market headwinds.*

d. How would RTOs reconcile conflicting SIPs within a region?

Answer: *I am unable to answer that question at this point due to the uncertainty over what the SIPs might eventually entail. However, the issue of RTOs dealing with multiple SIPs and the issue of multiple RTOs within a single state may be extremely challenging and any change to these markets must be approved by FERC.*

3. EPA's Proposal is silent on the treatment of purchase power agreements and interaction of energy markets for States that are net importers versus exporters. Do you believe that EPA's Proposal adequately addresses interstate power flows?

Answer: *I have heard questions posed by some states regarding their emissions targets in relation to the nature of their energy imports and exports. At this point, I have more questions than answers.*

4. Do you believe that EPA's Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA's MATS rule? What impacts could this have on the owners of stranded assets, wholesale energy markets and consumer electricity costs?

Answer: *Yes, I believe the proposal could cause stranded investments. Furthermore, the ambiguity in the proposed carbon rule undoubtedly makes it very difficult for existing plant owners to know whether they should invest anything now to comply with other regulatory requirements or whether they should simply pull the plug on the asset immediately. The impacts of stranded investments vary region to region. In traditionally regulated states, consumers may be obligated to pay for stranded investments via the regulatory*

## Responses of Commissioner Tony Clark

*compact that exists. In states served primarily by wholesale merchant generators, it is likely that the owners and investors in the companies would bear the costs associated with stranded investments.*

**Increased Reliance on Natural Gas, Renewables and Energy Efficiency**

1. EPA's Clean Power Plan contemplates natural gas combined cycle (NGCC) plants running at a 70% capacity factor to displace a significant amount of coal-fired generation. EPA's regulatory impact analysis projects pipeline capacity increases of 4-8% beyond base case projections by 2020.

a. Has FERC analyzed whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use?

*Answer:* FERC has spent a great deal of time and resources analyzing the changes that may need to happen due to the increasing reliance on natural gas as a fuel for generating electricity. To this point, FERC has not been able to assess specifically what the EPA proposed rule would mean in this regard since we do not know what the implementation plans will look like. However, it is safe to say that the proposed rule would likely lead to even greater dependency on natural gas, which makes gas-electric coordination efforts even more critical in future years.

b. Did EPA consult with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal?

*Answer:* I was not consulted, but I reference Chairman LaFleur's answer with regard to FERC generally.

c. Given the challenges of gas supply in the most recent winter, and continued concerns about gas deliverability to certain parts of the country, do you agree with EPA that its modeled capacity increases are feasible by the initial compliance date of 2020?

*Answer:* Depending on how the various implementation plans turn out, this could be an issue of concern. If large numbers of states look to pivot to gas generation over a short period of time, adequate access to reliable fuel sources will be paramount. This is one reason, as I noted in a previous response, that I believe it is imperative for an independent, third-party to verify that the implementation plans are designed in such a way that bulk power reliability is not threatened.

2. Has FERC completed any electric transmission system capability and reliability analysis that demonstrates that the increases in NGCC plant utilization that EPA assumes in its proposal could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants?

*Answer:* Not that I am aware of, and I note Chairman LaFleur's response indicates not.

3. Has FERC analyzed the integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan? Did EPA consult with FERC regarding these integration issues?

*Answer:* I reference Chairman LaFleur's response, and separately note that these issues are legitimate operational concerns when integrating large amounts of intermittent resources into the grid. A great deal of

## Responses of Commissioner Tony Clark

*work is going into addressing integration issues through the efforts of individual utilities, RTOs, research entities, FERC and others, in addition to NERC.*

4. Has FERC studied whether under the EPA Proposal additional transmission lines would need to be built to integrate more renewables, where the lines may be built, and how long it may take to site, permit and build these lines? Has FERC estimated the cost of transmission necessary to supply increased renewable resources under EPA's Proposal?

*Answer: I do not believe FERC has done so, but given the uncertainty of what compliance plans might entail, it is probably still too early to tell.*

5. The Clean Power Plan would facilitate the rapid expansion of renewable resources, particularly rooftop solar underwritten by long-term leases.

a. Has EPA requested, and has FERC conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources?

*Answer: Please refer to Chairman LaFleur's response.*

b. Do you believe that rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis?

*Answer: If not properly accounted for and managed, yes.*

6. The Clean Power Plan contemplates significant increase in energy efficiency and demand-side management. How would the increased role of energy efficiency and demand-side resources impact wholesale energy markets? Reliability? Can FERC regulate such resources, particularly given the recent court ruling vacating FERC's Order No. 745?

*Answer: Again, I would suggest it is too early for me to be able to definitively answer that question because I do not yet know what the various compliance plans will entail, but it would appear demand side management will be a part of many of them. In the DC Court of Appeals decision, I found the majority opinion to be correct in many respects (especially as it related to compensation of demand response) and not unreasonable as it related to the jurisdictional question. Nonetheless, the Commission did request a partial rehearing en banc related to the issue of jurisdiction. Ultimately, I believe given an adequate transition time, even if the DC Court decision stands, it is far from the end for demand response. It would simply mean that demand response would need to participate in the retail (state) side of the market rather than in the wholesale (FERC) side. Even still, demand reductions would continue to be used as a tool for meeting reliability needs. Therefore, regardless of who wields the jurisdictional hammer, regulatory agencies must continue to pursue adequate rules governing energy efficiency and demand response operations in order to ensure system reliability.*

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
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WASHINGTON, DC 20515-6115  
Majority (202) 225-2827  
Minority (202) 225-3841  
August 13, 2014

The Honorable Tony Clark  
Commissioner  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Dear Commissioner Clark:

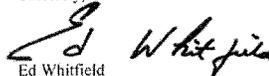
Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 29, 2014, to testify at the hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Wednesday, August 27, 2014. Your responses should be mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed to [Nick.Abraham@mail.house.gov](mailto:Nick.Abraham@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS  
**Congress of the United States**  
House of Representatives  
COMMITTEE ON ENERGY AND COMMERCE  
2125 Rayburn House Office Building  
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Majority (202) 225-2327  
Minority (202) 225-3641  
August 13, 2014

The Honorable Tony Clark  
Commissioner  
Federal Energy Regulatory Commissioner  
888 First Street, N.E.  
Washington, D.C. 20426

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Sincerely,

Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

Commissioner Tony Clark's 8-27-14 Responses

Additional Questions for the Record

The Honorable Ed Whitfield

1. How many times did you or your staff meet with EPA to discuss the Clean Power Plan proposal?

Answer: Zero, as it relates to me and my advisors.

2. Do you view EPA's proposed Clean Power Plan as an "energy plan" or a "pollution control" rule? Please explain your response.

Answer: It is clearly an energy plan, albeit one promulgated in the name of limiting carbon emissions. In my mind, a pollution control rule would specifically seek to limit a pollutant from an emission source. It would define the scope of the problem and be able to quantify specific health benefits associated with a certain reduction in the pollution. A pollution control plan relies on data to enumerate precisely what is an environmentally acceptable amount of a pollutant to be released, and then sets about to reduce the emission of that pollutant accordingly. In short, a pollution control rule focuses on the pollutant itself.

A comprehensive energy plan is a much different creature. An energy plan is marketed to the public as a means to achieve any number of public policy goals, which could include, but are not limited to things like: job creation, affordability, energy security, price stability, reliability, and economic efficiency. Environmental benefits can be a part of an energy plan, but they are typically just one of many outcomes considered in a comprehensive package of proposals.

The Clean Power Plan looks much more like the latter than the former. It goes far beyond merely controlling pollution at its emission source, as has traditionally been the case in EPA power sector rules. Instead, EPA's proposed targets rely on assumptions regarding state (or regional) programs such as cap-and-trade schemes, carbon taxes, renewable portfolio standards, system dispatch, energy efficiency standards and codes, and state public utility commission decisions related to integrated resource plans and rate designs, all of which are outside the EPA's pollution control jurisdiction. By filing a state plan that includes these components, a state may be required to seek EPA approval for any changes that it makes to the energy programs included in the plan. The catch is EPA appears to lack authority to compel such action by the states. Thus, the Clean Power Plan offers suggestions of things that it would find acceptable in a state implementation plan. This is what the EPA has termed as state "flexibility." As I noted in my original testimony, this leaves states with a true dilemma. A state can choose to voluntarily submit a state implementation plan to the EPA and thereby forfeit future energy policy decisions and regulatory control over their utilities. Or it can roll the dice and see what a federal implementation plan will look like. Because EPA has failed to provide guidance to the states by outlining a federal implementation plan, I can only imagine the difficult decision states will face when trying to decide what course to take.

3. Would you agree that the proposed Clean Power Plan gives EPA a certain amount of control over State decisions regarding the generation, supply and consumption of power, particularly if State renewable energy and energy efficiency programs are included in an EPA-approved State Implementation Plan?

Answer: Yes, I agree with that statement.

4. As the D.C. Circuit Court recently held, FERC lacks authority to dictate how States plan and operate their energy systems. Are you aware of any statutory authority that permits EPA to mandate that States restructure their electric systems and subject State energy decisions to federal oversight and control?

Answer: I am not aware of any such direct statutory authority. Of course, any power sector regulation, even those properly promulgated, will have some level of indirect impact on what actions a state may take.

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5. **To what extent does FERC have authority over State utility and resource planning? Are you aware of any statutory authority giving EPA greater authority in this area than FERC?**

Answer: I am unaware of any statutes giving EPA greater authority than FERC in these areas. FERC authority is limited by the powers granted to it by Congress under the Federal Power Act, and other controlling statutes. Because the electricity delivery system is so interconnected, FERC decisions in areas in which it does have clear authority (such as bulk electric system reliability, wholesale electricity markets or interstate electricity transmission) can sometimes have an indirect impact on matters that are reserved to the states (and vice versa).

6. **EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxic Standards (MATS) rule. What do you view as the potential reliability impacts resulting from the loss of 180 gigawatts of generation over the next 6 years?**

Answer: This is a very real challenge, especially in certain parts of the country, such as the Midwest. FERC has already seen an uptick in System Support Resource (SSR)<sup>1</sup> filings before it, but system planners are pointing to a greater challenge over the next few years. As of June 2014, MISO was projecting a 2.3 GW shortfall in its planning reserve margin for its North/Central subregions for the 2016/2017 timeframe, and this is prior to accounting for EPA's proposed section 111(d) regulations. Using data gathered through survey efforts with the Organization of MISO States, MISO projects that its planning reserve margin will shrink to 12.5% by 2016, which would fail to meet the industry reliability standard of only encountering a reliability event 1 day in 10 years.<sup>2</sup> A 12.5% reserve margin would double the probability of a loss of load to 2 days in 10 years. Should margins shrink further, the danger of loss of load would grow exponentially. For example, were reserve margins to dip as low as 4.8%, MISO calculates 3 reliability event days per year (without emergency procedures being implemented). As a point of reference, MISO's historical planning reserve margin has been over 20%, which more than meets the 1 day in 10 years standard. Utilities and their regulators (state and FERC) are attempting to address these challenges so that capacity needs are met, but I would not suggest this will be a simple task.

Beyond the difficulties associated with meeting reliability challenges in such a short timeframe, maintaining grid reliability over the next few years, in light of environmental regulations, will require significant investment and out of market expenditures (such as SSR agreements). Utilities and their regulators loathe letting reliability suffer, so the issue ultimately becomes one of keeping the lights on and the furnaces running, sometimes at significant expense. Unfortunately, that could come at a very high consumer cost, absent a willingness to curtail load.

7. **Would you be supportive of EPA including in its final Clean Power Plan a "reliability safety valve" that provides FERC greater authority to prevent the retirement of reliability critical generating units? What might such a safety valve look like?**

Answer: I would support a reliability safety valve. One way to effectuate a safety valve would be to ensure that no state, federal, or regional implementation plan shall take effect until such time as FERC certifies that the implementation plan, taken together with other implementation plans, will not have a detrimental effect on

<sup>1</sup> Generally, SSRs are defined as generation resources in the region of the Midcontinent Independent System Operator, Inc. (MISO) that seek to retire for various reasons, but that are compelled to enter into out-of-market agreements to remain in operation for reliability purposes.

<sup>2</sup> See MISO's 2016 Resource Adequacy Forecast, located at: <https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/SAWG/2014/20140605/20140605%20SAWG%20Item%2003%202014%20OMS-MISO%20Survey%20Update.pdf>.

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bulk electric system reliability. In making its certification decision, FERC would need to employ an open and transparent process, and avail itself of information that resides with institutions such as the North American Electric Reliability Corporation and the various regional planning entities and RTOs/ISOs. Furthermore, as I noted in my answer to question 6, because reliability and cost are so intertwined, I believe an important part of a reliability safety valve would be an associated cost safety valve, so that the impact on both reliability and cost could be considered as a package.

8. **Has EPA advised you about how the Clean Power Plan would work in states with multiple Regional Transmission Organizations (RTOs) or states with RTO members and non-RTO members or states with no RTO members? If yes, how would the plan work according to EPA?**

Answer: EPA has not provided me with any such information.

9. **EPA analyzed a set of compliance scenarios referred to as "Regional" scenarios. The regional scenarios allow emission rate averaging across affected sources within six multi-state regions, informed by North American Electric Reliability Corporation (NERC) regions and Regional Transmission Organizations (RTOs). What role does FERC see for itself in overseeing such regional compliance efforts?**

Answer: Without knowing more about the specifics of the various plans that might emerge, that is a difficult question for me to answer. But as a general matter, FERC authority derives from the Federal Power Act and other applicable statutes, not the environmental laws that EPA is charged with implementing. As I noted in my previous testimony, there is a risk the Federal Power Act and the Clean Air Act could be drawn into conflict.

10. **EPA's proposal specifically encourages States to consider the following strategies to reduce GHG emissions: demand-side energy efficiency programs; renewable energy standards; efficiency improvements at plants; dispatch changes; co-firing or switching to natural gas; construction of new Natural Gas Combined-Cycle plants; transmission efficiency improvements; energy storage technology; retirements; expanding renewables like wind and solar; expanding nuclear; market-based trading programs; and energy conservation programs.**

- a. **Would you agree the above items relate more to energy planning than to environmental protection?**

Answer: Yes. This is especially true given the fact that, barring action from other GHG emitting nations, the proposed rule itself would do little to appreciably address the overall amount of carbon in the atmosphere.

- b. **Do you believe EPA has the expertise to be in the energy planning business?**

Answer: No, and I have become increasingly concerned that the EPA does not fully appreciate the complexities, difficulties, and costs associated with electricity reliability.<sup>3</sup> As I stated in my previous testimony, while it is too early for FERC to be able to model or know exactly what the proposed rule will mean for reliability and costs, the trend line is clear. Our electric system is becoming "tighter" with each passing year; that is to say, the margin for error is becoming slimmer as our energy grid is forced to make a rapid transition. Climate activists often note that we should not ignore the scientists who are raising red flags about

<sup>3</sup> "In proposing the draft rule last month, Environmental Protection Agency Administrator Gina McCarthy said concerns about reliability were overblown, especially in connection with extreme weather. "I'm tired of people pointing to the polar vortex as a reason not to act on climate," she said." *Wall Street Journal*, July 30, 2014.  
<http://online.wsj.com/articles/energy-regulators-say-epas-climate-rule-poses-grid-challenges-1406659902>

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carbon emissions. I would ask EPA to not ignore the engineers and system planners who are raising red flags about reliability. It would be an act of hubris to suggest that we should disregard what these experts are telling us about how the system is performing during "stress tests" such as periods of cold weather. The New England region, which has arguably gone further than any other in already adopting what EPA envisions in its Clean Power Plan, is a case study in the pitfalls associated with making this transition rapidly. Electricity prices in New England far exceed the national average, and reliability is a very real challenge during critical portions of the year. The fact that we have not yet had a major loss of load event in this region has as much to do with good fortune as good planning. But counting on continued good fortune is a poor long-term strategy.

c. **Is there anything on this list that would be within the jurisdiction of States?**

Answer: Yes. Many of the items on the list are state jurisdictional, especially those things that are directly tied to the retail or end-use consumer markets.

d. **Is there anything on this list that may directly or indirectly impact FERC jurisdiction?**

Answer: Yes. Items that relate to interstate transmission of electricity and wholesale energy markets, to name a few, implicate FERC. To the degree an EPA rule directly attempts to change FERC jurisdictional market dispatch rules, there could be a clear conflict between the Federal Power Act and the Clean Air Act.

11. **In July, the National Association of Regulatory Utility Commissioners (NARUC) approved a resolution seeking to:**

**preserve States' authority to decide the type, amount and timing of new or existing generation facilities that will be constructed or maintained within the State to achieve legitimate State policy objectives;...to safeguard and guarantee States' continued right to operate programs to procure new generation or maintain existing generation for reliability, affordability and environmental purposes....; and to ensure that nothing in the Federal Power Act be deemed to preempt or prohibit such activity by the States.**

**Do you view EPA's Clean Power Plan as impacting any of these areas which NARUC has expressly resolved to preserve? How so?**

Answer: Being that the resolution quoted specifically refers to the Federal Power Act, which is administered by FERC, I have been under the assumption that the resolution is primarily related to state concerns over FERC itself potentially encroaching on state authority. As with regard to the opinion of NARUC or its individual state members related to the Clean Power Plan, I can only speculate. However, I would note that the Clean Power Plan goes much further in implicating traditional state authority over the energy sector than anything that has been promulgated to date by FERC under the auspices of the FPA.

12. **EPA estimates that its existing power plant carbon standards "will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems." Yet, the L.A. Times, in an article entitled "U.S. electricity prices may be going up for good," recently concluded that EPA's power plant retirement projections for its Mercury and Air Toxic Standards (MATS) rule "turned out wrong almost immediately." Do you believe EPA could be again underestimating the reliability impact of its regulations?**

Answer: Yes. Please refer to my answers to questions 6 and 10(b).

13. **EPA says that "central" to its proposed rule is "[t]he fact that generation at one EGU can be substituted for generation at another." EPA seems to suggest that a megawatt generated in Illinois can substitute for a megawatt generated in New York. This seems like a simplified understanding of how the grid**

Commissioner Tony Clark's 8-27-14 Responses

**functions. Would you agree?**

Answer: It would be a sweeping, and incorrect, assumption to simply say that all megawatts are equal when it comes to reliability within or across regions. Beyond transmission and fuel constraints (such as lack of available pipeline capacity) that can impact the deliverability of electricity, there are numerous other factors to consider. For example, certain generators may be located in exceptionally important areas for matters such as voltage support or reactive power. For purposes of reliability, there are many factors to consider beyond gross generating capacity for a region. This is why transitions in the energy grid necessitate rather long lead times and granular analysis.

**14. In order to offset reductions in actual capacity, EPA appears to assume that there will be a significant reduction in load through energy efficiency programs sufficient to offset any resource adequacy issues that may result from such retirements. Given that EPA cannot mandate that individual citizens reduce their energy consumption, do you think EPA can reasonably rely on such reductions to ensure reliability?**

Answer: I would be uncomfortable simply assuming that energy efficiency itself will be enough to reduce demand to a level that retirements are not an issue. While energy efficiency is an important tool for using electricity wisely, I can envision many situations where it is unlikely that it alone would be enough to overcome a large raft of retirements or native load growth. For regions that are experiencing larger than average load growth due to strong economic growth, this will be a particular challenge. No amount of energy efficiency would be able to overcome the thousands of megawatts of load growth in my home state of North Dakota due to the Bakken oil boom, to use just one example. In addition, energy efficiency itself can reach a point of diminishing returns, whereby the costs of energy efficiency measures begin to outstrip the value of the load reductions associated with it. This is why, traditionally, regulators have encouraged only "all cost effective" energy efficiency measures be undertaken.

Commissioner Tony Clark's 8-27-14 Responses

**The Honorable David B. McKinley**

1. This January, during the "Polar Vortex", electricity customers in the PJM region experienced significant abrupt increases in their electricity costs, with bills rising to several times their normal levels. These price spikes were caused, in part, by significant generation outages during January, despite these generation resources receiving billions of dollars a year in advanced payments in exchange for their being available to provide energy during peak periods, whether in the extreme heat of the summer or the extreme cold of the winter. I am concerned that the causes of this situation have not been understood well enough to prevent it from happening again. Do you think you fully understand what happened and can assure us it isn't going to happen again? Has the Commission conducted a comprehensive root cause investigation and analysis of the situation, or directed PJM or the PJM Independent Market Monitor ("IMM") to do so?

a. If yes, have those results been released publicly?

Answer: Please refer to my answer in b.

b. If no, why not?

Answer: The Commission and the RTOs/ISOs continue to analyze January market operations and generation outages. As discussed in detail in Chairman LaFleur's response, the Commission held a technical conference on April 1, 2014 to explore the impacts of the season's cold weather events on the RTOs/ISOs, and discuss actions taken to respond to those impacts.<sup>4</sup> PJM conducted an investigation of last January's extreme weather events in its region, and issued a public report on May 9, 2014.<sup>5</sup> The Commission and the RTOs/ISOs are currently investigating ways to enhance the RTO/ISO markets to ensure reliable and cost-effective resource performance, especially during constrained periods such as those seen in January. Our Office of Enforcement's regular surveillance program also continues to analyze market participant behavior to guard against manipulation and uncompetitive market outcomes.

The environmental conditions experienced this past winter stressed the supply/demand balance in the PJM region to levels not previously seen by PJM. Demand for electricity in January hit an all-time winter peak and PJM experienced eight of its ten highest winter demands within a matter of weeks. At the same time, supply reserves were deflated as generation outages occurred at levels much higher than normal outage rates. During the all-time winter peak on January 7<sup>th</sup>, PJM experienced a 22% forced outage rate, with a total of 40,200 MW unavailable due to forced outages. PJM reports that this was far above the historical forced outage average rate of 7%. According to PJM, outages were caused by a variety of factors, including the cold, the stress of extended run times, natural gas interruptions and fuel-oil delivery problems. Specifically, PJM states that 42% of forced outages on January 7<sup>th</sup> were due to equipment failures, while 24% of the forced outages were attributed to a lack of fuel to start up and/or run generating units. During this time, natural-gas-fired generators accounted for 47% of the unavailable megawatts and coal-fired generators were 34%. While PJM maintained reliability through emergency procedures and enhanced communications, market prices escalated to over \$1,800 per megawatt-hour to reflect the constrained operating conditions. PJM also reports that natural gas scheduling issues caused most of the \$597 million in out-of-market make-whole charges for January 2014.

The extreme weather events in January tested grid reliability and market performance. I cannot provide complete assurance that measures will be implemented by the RTOs/ISOs before next winter that will prevent

<sup>4</sup> See Winter 2013-2014 Operations and Market Performance in RTOs and ISOs, located at: <http://www.ferc.gov/CalendarFiles/20140401083844-Staff%20Presentation.pdf>.

<sup>5</sup> See PJM's Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events, located at: <http://www.pjm.com/~media/committees-groups/task-forces/cstf/20140509/20140509-item-02-cold-weather-report.ashx>.

Commissioner Tony Clark's 8-27-14 Responses

price spikes under similar extreme weather events as those seen in January. Besides the prolonged periods of bitter cold, market operations in the RTOs/ISOs were affected by generator performance and procurement, fuel security and flexibility, and communications. The Commission and RTOs/ISOs are actively addressing each of these issues, with the hope of strengthening system operations on an expedited basis. A list of some of these activities can be found in Chairman LaFleur's responses to questions 2, 5, and 7.

2. **What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, to identify potential solutions to the generation performance problems that occurred during January 2014 in the PJM region?**

Answer: Please refer to the response submitted by Chairman LaFleur.

3. **Has the Commission determined whether any generation outages were reflective of attempts to manipulate market-clearing prices?**

Answer: Please refer to the response submitted by Chairman LaFleur.

4. **We understand that the delivered price of natural gas rose to historic highs in the PJM region during January 2014, and that these unprecedented delivered prices for natural gas were primarily the result of extraordinarily high prices for capacity on interstate natural gas pipelines in the PJM region. Has the Commission conducted a comprehensive root cause investigation and analysis, or directed PJM or the PJM Independent Market Monitor ("IMM") to conduct a comprehensive root cause investigation and analysis, of the unprecedented natural gas prices that surfaced in the PJM region during January 2014?**

- a. **If yes, have those results been released publicly?**

Answer: Please refer to the response submitted by Chairman LaFleur.

- b. **If no, why not?**

Answer: Please refer to the response submitted by Chairman LaFleur.

5. **What efforts has the Commission undertaken, or directed PJM and the IMM to undertake, or directed interstate natural gas pipeline operators to undertake, to identify potential solutions to the natural gas deliverability problems that occurred during January 2014 in the PJM region, either by better optimizing the use of existing assets or by constructing new assets or both?**

Answer: Please refer to the response submitted by Chairman LaFleur.

6. **Has the Commission determined whether any natural gas deliverability problems were reflective of attempts to manipulate natural gas prices or electricity market clearing prices?**

Answer: Please refer to the response submitted by Chairman LaFleur.

7. **Price increases for natural gas and electricity in the PJM region, and elsewhere, are very concerning to me. My constituents in the PJM region have asked me to ensure that markets have been, and are, functioning properly and that prices have not been increased by speculation or manipulation. It is now July, can you assure me that FERC intends to have answers to these questions about natural gas and electricity pricing BEFORE next winter?**

Answer: I, too, am concerned about the impacts of manipulative behavior on the price of natural gas and

Commissioner Tony Clark's 8-27-14 Responses

electricity prices. While I have reviewed the response submitted by Chairman LaFleur and concur with it, I also provide you with the assurance that I will do my part to promote efforts that further the proper functioning of markets and support investigations into the effects of speculation and manipulation on market prices.

8. In the Clean Power Plan proposed rule's Regulatory Impact Analysis, EPA notes that the Integrated Planning Model (IPM) was used to project the impact of the rule on electricity prices. The documentation for the IPM on EPA's website explains that the model assumes both perfect competition and perfect foresight. The former means that "IPM does not explicitly capture any market imperfections such as market power, transaction costs, informational asymmetry or uncertainty." The latter "implies that agents know precisely the nature and timing of conditions in future years that affect the ultimate costs of decisions along the way." Does FERC agree that such a model can accurately capture how the proposed rule will impact prices? What are some likely differences in the actual implementation of the rule and this model?

Answer: I can only speculate about whether this model is suited to accurately capture the price impacts of the rule. Based on the description you provided above, the model appears to be based on theoretical assumptions and not the practical realities of market operations. If this is correct, the result could be an inaccurate estimate of the impact of the rule on electricity prices.

9. Achieving compliance with the proposed rule will require a replacement of higher carbon dioxide emitting resources with new lower or zero-emitting units. Yet a recent study by Christensen Associates commissioned by the Electric Markets Research Foundation concluded that the RTO markets "do not and cannot address long-term capacity needs." The study also found that "[b]ilateral forward contracting remains key under any market design for locking in revenues and facilitating financing of new resources. Contrary to this key necessity, however, the RTO markets include some design elements that impede long term investments and long-term bilateral contracts." What steps does FERC intend to take to ensure that RTO markets do not impede bilateral contracting needed for new resource development that will be required for state compliance with the rule?

Answer: Please refer to the response submitted by Chairman LaFleur.

10. Within the retail access states, most of the generation is no longer owned by vertically-integrated utilities and instead is under merchant ownership. There is no state or local jurisdiction over these merchant generation owners regarding whether to continue to operate or close a plant or what types of generation technology should be built. Does FERC see any difficulties in implementation of the proposed rule in states with large amounts of merchant generation?

Answer: For those states that have chosen to enact retail restructuring, merchant generators will decide whether their operations can remain economic under new environmental regulations. To the extent the Clean Power Plan results in further retirements of baseload resources such as coal-fired generation, additional investment and/or demand-side initiatives may be necessary to maintain reliability. Market prices would be expected to respond accordingly. As I indicated in my response to Question 7 submitted by Chairman Whitfield, I strongly believe the Clean Power Plan should include reliability and cost safety valves.

While generators participating in FERC-regulated markets are permitted to recover costs incurred to comply with environmental regulations, I am reluctant to accept the proposition that FERC should redesign the wholesale electricity markets to accommodate EPA regulations. FERC authority derives from the Federal Power Act and other applicable statutes, not the environmental laws that EPA is charged with implementing. As I noted in my previous testimony, there is a risk the FPA and the Clean Air Act could be drawn into conflict if FERC finds it necessary under the FPA to alter or reject a proposed EPA compliance mechanism.

Commissioner Tony Clark's 8-27-14 Responses

**The Honorable Gene Green**

**Mr. Clark, EPA's rule seems to assume our transmission grid will not require much, if any, changes as a result of retirements, decreased margins, or renewable sources whether they be large scale or residential.**

- 1. Commissioner Clark, in different regions of the country, what entities are responsible for building and maintaining new and existing transmission? What challenges do they face?**

Answer: In practice, until this point, the large majority of electricity transmission in the country has been built and maintained by incumbent utility providers. In some regions this is done under the umbrella of independent grid operators like RTOs and ISOs. In other parts of the country, it is done within the context of a state regulated, vertically integrated monopoly utility company operating in a "non-market" region. Recent years have seen a few different business models emerge beyond just traditional incumbent providers. The nation now has a number of either merchant transmission companies or standalone independent transmission providers that see the building and maintenance of transmission as a potentially profitable line of business. The challenges transmission-owning companies face is as numerous as the regions in which they operate. The siting of large regionally beneficial projects is often raised as a challenge, especially if lines cross multiple siting jurisdictions. Access to adequate returns on equity when compared to less logistically difficult distribution assets is often raised as another challenge. Non-incumbent providers will often discuss the challenges of breaking into a business in which the incumbent providers have a number of advantages such as access to exiting rights of way and, in some states, a right of first refusal to construct.

- 2. Is EPA's assumption reasonable given existing challenges?**

Answer: While I cannot speak to EPA's entire set of assumptions, to the degree it contemplates a heavy reliance on intermittent sources of energy; I believe it would be unreasonable to assume there will not be necessary changes. Whether large-scale renewables or small-scale residential installations, to the degree variable sources of energy become an even larger portion of our energy mix, there will need to be significant investments and changes made to accommodate their integration. In the case of large renewables like utility-scale wind and solar, transmission investments are likely to be needed to hook-up remote generation to the existing transmission grid, and to diversify the grid so that congestion and energy deliverability are improved. Similarly, large net increases in small-scale intermittent distributed resources like rooftop solar can have a major effect on the workings of the bulk electric system. In both cases, the parameters by which system operators maintain the reliability of the grid will need to be taken into consideration. Voltage support and reactive power needs must be accounted for when considering the addition of renewable generation and the retirement of existing thermal generation. While these obstacles may not ultimately prove to be insurmountable, neither should we minimize the challenges they present in terms of time, cost or implementation. Both state and federal regulators will be grappling for some time with issues related to reliability, operability and cost causation/allocation as they relate to variable energy resources.

- 3. Are there potential reliability issues that EPA could have missed in their transmission assumptions?**

Answer: In my experience, one of the most challenging issues transmission developers face is the long lead times involved. From concept to completion, large transmission projects are years in the making. Any energy plan that rests on the assumption that these upgrades will be made in a short timeframe is probably underestimating the reality of what it takes to get transmission built. Furthermore, there is at least some reason to be concerned that actions FERC itself has taken related to Order No. 1000 compliance filings could exacerbate this problem. As I have noted in a number of separate statements I have attached to FERC Order No. 1000 compliance determinations, to the degree FERC mandates an unrealistic bureaucracy in the planning processes, the counterproductive effect could be an increase in litigation and construction lead times.

**Responses of Norman C. Bay  
To Committee on Energy & Commerce  
Subcommittee on Energy & Power  
Preliminary Questions for the Federal Energy Regulatory Commission**

The following questions relate to the U.S. Environmental Protection Agency's ("EPA") recently proposed "Clean Power Plan." See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34830 (June 18, 2014), referred to herein as the "Proposal" or "Clean Power Plan."

**Interagency and State Coordination**

1. **During an Energy & Power Subcommittee hearing on June 19, 2014, EPA Acting Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated that "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."<sup>1</sup>**

- a. **Describe each consultation you have had with EPA regarding the Proposal, including where it occurred, the date(s) on which it occurred, with whom it occurred and identify any other participating agencies. Also provide details of the outcome of those consultations and relevant materials relating to those consultations.**

Answer: In my duties as the Director of the Office of Enforcement, I have not had any consultation with EPA regarding the proposal. With respect to consultation staff from other offices within the Commission has had with EPA, please see the responses of the Acting Chairman. However, I believe that the Commission should engage with a range of entities, including the EPA, the Department of Energy, state officials, NERC, RTOs/ISOs, and industry concerning the proposal, and my understanding is that staff has been doing so.

- b. **Did EPA request that FERC provide written advice or an analysis regarding the potential impacts of the Proposal on the reliability of the electric grid? If yes, provide a copy of the request and any resulting advice or analysis.**

Answer: Please see my response to Question 1.a.

- c. **Are you aware of any outreach by EPA to the North American Electric Reliability Corporation (NERC) regarding reliability impacts prior to issuing the Proposal? If yes, to your knowledge what was the nature of that outreach?**

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<sup>1</sup> Further, the Proposal states that "EPA has met on several occasions with staff and managers from the Department of Energy and the Federal Energy Regulatory Commission to discuss our approach to the rule and its potential impact on the power system." See 79 Fed. Reg. at p. 34899.

Answer: Please see my response to Question 1.a.

**2. The Proposal includes a Technical Support Document entitled “Resource Adequacy and Reliability Analysis.” See EPA-HQ-OAR-2013-0602-0368.**

**a. Did FERC prepare this analysis?**

Answer: Please see my response to Question 1.a.

**b. To your knowledge, did NERC prepare this analysis?**

Answer: Please see my response to Question 1.a.

**c. To your knowledge, did FERC or NERC assist in the preparation of this analysis or consult with EPA regarding its preparation or its results? Please provide relevant details and materials.**

Answer: Please see my response to Question 1.a.

**d. Did FERC have an opportunity to review this analysis before the Proposal was announced?**

Answer: Please see my response to Question 1.a.

**e. Has FERC independently reviewed this analysis? Does FERC agree with EPA’s conclusion that the “proposed rule will not raise significant concerns over regional resource adequacy or raise the potential for interregional grid problems”? See 79 Fed. Reg. at p. 34899.**

Answer: My understanding is that FERC staff is still reviewing this analysis. That said, my understanding is that EPA’s proposal offers broad flexibilities that will empower states to design state implementation plans that ensure resource adequacy and reliability. The proposal does not impose any plant-specific requirements, so any generating units needed to ensure reserve margins can remain in service to meet peak loads even if they are dispatched less intensively in order to reach state-wide emissions targets. In addition, the proposal does not require any compliance until 2020, and it gives states flexibility over a ten-year period through 2029 to reach their overall emission rate targets. Once I am sworn in, I look forward to discussing these issues with my colleagues on the Commission and engaging with the EPA, DOE, state officials, NERC, RTOs/ISOs, and industry.

**3. The Proposal states that the “EPA and other federal entities, including . . . the Federal Energy Regulatory Commission (FERC) . . . are committed to sharing expertise with interested states as they develop and implement their plans.” Please explain when and in what manner FERC expressly “committed” to sharing its expertise with States. Please provide relevant details and materials.**

Answer: Please see my response to Question 1.a. However, I look forward to continuing the Commission's collaborative working relationship with the states and NARUC. Because both FERC and state regulators are charged with protecting the public interest, they share a common interest and responsibility. It is important for FERC and state regulators to have a cooperative relationship while respecting each other's jurisdiction. If confirmed, I look forward to working with my state colleagues, including through continued coordination with the National Association of Regulatory Utility Commissioners (NARUC).

#### **Clean Power Plan Impacts on Fuel Diversity and Electric Reliability**

**1. Has FERC independently analyzed EPA's Clean Power Plan to determine the impact it could have on generating unit retirements and potential impacts on fuel diversity and electric reliability? If yes, what were the results of this evaluation? If not, does FERC intend to independently analyze the Proposal to evaluate potential impacts on fuel diversity and electric reliability?**

Answer: My understanding is that FERC staff has not specifically analyzed the impact EPA's proposal could have on generating unit retirements and potential impacts on fuel diversity and electric reliability.

**2. EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. EPA's Option 1 model specifically identifies each electric generating unit expected to retire by 2020 by name, location, and capacity. See EPA-HQ-OAR-2013-0602-0368 and EPA-HQ-OAR-2013-0602-0220.**

**a. Does FERC staff possess the expertise to complete an independent reliability assessment that (i) geographically plots each of the specific units identified in EPA's model for retirement and each unit that has already retired or announced retirement; and (ii) evaluates the potential regional, state, and local reliability impacts resulting from such retirements?**

Answer: My understanding is that FERC staff is capable of doing these assessments.

**b. Will you commit to having FERC staff complete such an independent assessment prior to October 1, 2014, so that the public may understand the potential impacts on reliability prior to submitting comments on the Proposal, due on October 16, 2014? If not, why not?**

Answer: Please see the response of the Acting Chairman.

#### **Clean Power Plan Impacts on Electricity Markets**

**1. Would existing organized wholesale electricity markets have to be redesigned to implement EPA's Proposal? For example, are Regional Transmission Organizations (RTOs) prepared to transition from economic to environmental dispatch? Did EPA consult with FERC regarding the feasibility of switching from economic to environmental dispatch? What RTO implementation challenges would environmental dispatch present?**

Answer: EPA's proposal offers broad flexibilities that will empower states to design state compliance plans that ensure resource adequacy and reliability. In the past, the RTO and ISO markets have been able to successfully integrate state and regional environmental requirements into their economic dispatch. Currently, resources are generally dispatched by the markets based on cost (or bids), but also in compliance with other applicable laws. For example, applicable laws may limit generators to running only a fixed number of hours in some areas, and may limit the dispatch of hydropower resources based on various environmental factors.

**2. EPA's Proposal wrongly assumes States dispatch electricity. Given that electricity is actually dispatched by RTOs or other market operators on the basis of competitive market results, how would State compliance plans be implemented in electricity markets?**

Answer: Please see my answer to Question 1 in this section. In addition, the electricity market structure in each state may be an important factor in determining how state compliance plans will be implemented in wholesale electricity markets. For example, in states that have not restructured their electricity market or joined an RTO, state regulators generally approve the mix of generating resources and demand-side measures that their vertically-integrated utilities will dispatch to serve their customers, through Integrated Resource Planning (IRP) processes or other regulatory tools. Even in regions where an RTO dispatches resources to serve load, many states have not restructured their retail markets and have retained the vertically-integrated utility model. Further, as noted above in response to Question 1 concerning the impacts on electricity markets, in the past, the RTO and ISO markets have been able to successfully integrate state and regional environmental requirements into their economic dispatch.

**a. Would a State Implementation Plan (SIP) take priority over market dispatch performed by an RTO?**

Answer: Please see my answer to Question 1 in this section. Further, whether and how RTO dispatch will be affected will depend on how states implement the final requirements promulgated by EPA. If changes to market dispatch rules are necessary to ensure just and reasonable rates, FERC would have a role in reviewing those rules.

**b. Would a SIP take priority over bilateral contracts between a buyer of power in one State and a seller of power in another? If so, how, and what is the authority for this?**

Answer: EPA's proposal offers broad flexibilities that appear to allow states to design state compliance plans in a way that would respect bilateral contracts. Whether or not a state

compliance plan takes precedence over a bilateral contract may depend on state regulatory authority and state law. Further, any individual bilateral contract may contain a provision that would govern the treatment of the contract if new regulations place requirements on the seller of power.

**c. Would a State have authority to compel the continued operation of existing nuclear power plants if those plants are not being dispatched in wholesale electricity markets because their bid costs are too high compared to other generation?**

Answer: Whether a state could require the continued operation of existing nuclear power plants may depend on state law and any applicable federal law. However, depending on the laws and regulations in individual states, an individual state or state utility regulator may have the authority to provide financial support to encourage the continued operation of any type of power plant, including nuclear generation.

**d. How would RTOs reconcile conflicting SIPs within a region?**

Answer: The EPA proposal allows states to work individually or in regional groups to comply with the proposed rule. Whether the states intend to comply individually or form a region to comply, RTOs should work with states and others to ensure that the requirements of the state compliance plans can be reasonably implemented. However, should there be a conflict in the state compliance plans, the nature of the conflict and its effect on RTO operations will dictate how the conflict should be reconciled.

**3. EPA's Proposal is silent on the treatment of purchase power agreements and interaction of energy markets for States that are net importers versus exporters. Do you believe that EPA's Proposal adequately addresses interstate power flows?**

Answer: EPA explained how it took interstate power flows into account in its "Technical Support Document: Resource Adequacy and Reliability Analysis." I understand that the methods used by EPA to model interstate power flows were similar to the methods used by industry for resource adequacy analysis.

**4. Do you believe that EPA's Proposal could result in stranded financial investments for units that have been retrofitted with emissions controls for other programs, such as EPA's MATS rule? What impacts could this have on the owners of stranded assets, wholesale energy markets and consumer electricity costs?**

Answer: Whether a regulatory change will result in stranded investments depends on many factors, such as the final requirements, the state compliance plans, and the length of time to comply with the rule. EPA's proposal does not impose any plant-specific requirements, and offers broad flexibilities that would seem to allow a state to take into account that certain units have recently been retrofitted with emissions controls and seek other options to comply with the emissions requirements. How any stranded investments would affect asset owners, wholesale

energy markets, and consumers will depend on the size of those stranded investments and whether state regulators allow recovery of the investment in the future.

#### **Increased Reliance on Natural Gas, Renewables and Energy Efficiency**

**1. EPA's Clean Power Plan contemplates natural gas combined cycle (NGCC) plants running at a 70% capacity factor to displace a significant amount of coal-fired generation. EPA's regulatory impact analysis projects pipeline capacity increases of 4-8% beyond base case projections by 2020.**

**a. Has FERC analyzed whether the natural gas infrastructure exists to reliably serve NGCC plant needs while preserving reliable gas service for non-power generation use?**

Answer: My understanding is that FERC staff has not performed a quantitative analysis of this issue but, to date, pipeline infrastructure has been sufficient to allow reliable operation of the bulk-power system, despite constraints that may have prevented certain generating units from operating at certain times. Whether pipeline capacity will expand by 2020 as projected by EPA depends on a variety of factors, including whether gas users make timely commitments to support the expansion.

**b. Did EPA consult with FERC regarding the adequacy of natural gas infrastructure prior to publishing its Proposal?**

Answer: Please see my response to Question 1.a regarding Interagency and State Coordination.

**c. Given the challenges of gas supply in the most recent winter, and continued concerns about gas deliverability to certain parts of the country, do you agree with EPA that its modeled capacity increases are feasible by the initial compliance date of 2020?**

Answer: FERC plays a critical role in permitting natural gas pipelines and incenting the development of natural gas infrastructure. Whether gas capacity can be increased as modeled by EPA will depend on a variety of factors, including whether gas users make timely commitments to support the expansion. It is unlikely that the time needed for FERC to review certificate applications and for the pipelines to be constructed will impair feasibility. I also note that 2020 is the deadline for initial compliance and, given the flexibility in the EPA proposal, states can take other steps if there are concerns that pipeline infrastructure may not be ready in time.

**2. Has FERC completed any electric transmission system capability and reliability analysis that demonstrates that the increases in NGCC plant utilization that EPA assumes in its Proposal could replace retired coal-fired generation are practicable, taking into account the location of the coal plants being retired and the location of existing NGCC plants?**

Answer: My understanding is that FERC has not. Re-dispatch from coal to natural gas is likely to require coordinated planning between the gas and electric sectors, and other efforts such as transmission construction. However, the proposal does not require any compliance until 2020, and it gives states flexibility over a ten-year period through 2029 to reach their overall emission rate targets. Also, as noted above, under the proposal coal-fired units can be retained when needed for reliability, so long as state-wide emissions meet the proposed targets through other means.

**3. Has FERC analyzed the integration issues (e.g., voltage control, natural gas backup power, etc.) associated with a substantial expansion and deployment of intermittent renewable energy resources, as contemplated by EPA's Clean Power Plan? Did EPA consult with FERC regarding these integration issues?**

Answer: Please see my response to Question 1.a regarding Interagency and State Coordination.

**4. Has FERC studied whether under the EPA Proposal additional transmission lines would need to be built to integrate more renewables, where the lines may be built, and how long it may take to site, permit and build these lines? Has FERC estimated the cost of transmission necessary to supply increased renewable resources under EPA's Proposal?**

Answer: My understanding is that FERC has not. However, I note that the Edison Electric Institute (EII) has recently issued a report concerning transmission investments by its members, which highlights over 170 transmission projects (totaling over \$60.6 billion in investment through 2024) proposed by its members alone.

**5. The Clean Power Plan would facilitate the rapid expansion of renewable resources, particularly rooftop solar underwritten by long-term leases.**

**a. Has EPA requested, and has FERC conducted, an analysis of the potential reliability impacts associated with a rapid rise in the use of variable generating sources?**

Answer: Please see my response to Question 1.a regarding Interagency and State Coordination.

**b. Do you believe that rapid changes in the use of variable generation sources could pose challenges to electric reliability on a local or national basis?**

Answer: These issues are generally not significant at low levels of penetration by variable generation but may be more relevant at higher levels of use. NERC and others are continuing to assess these issues. A key factor may be to ensure that new renewables have capabilities such as active power control and frequency response, allowing them to better support system reliability at higher penetration levels.

**6. The Clean Power Plan contemplates significant increase in energy efficiency and demand-side management. How would the increased role of energy efficiency and demand-**

**side resources impact wholesale energy markets? Reliability? Can FERC regulate such resources, particularly given the recent court ruling vacating FERC's Order No. 745?**

Answer: Increased integration of any resource, including energy efficiency demand-side resources, can have an impact on wholesale energy markets. However, these resources have been successfully integrated into wholesale market operations and have provided a benefit to the markets. For example, PJM Interconnection, L.L.C. (PJM) activated over 2500 megawatts of demand response during the recent Polar Vortex and over 6600 megawatts of emergency demand response during the excessive heat of September 2013 to maintain reliability. During the Polar Vortex in particular, PJM has reported that the performance of demand response resources exceeded expectations, despite the fact that those resources have no obligation to respond during the winter months.

The extent to which the Commission can regulate demand response resources in wholesale energy markets is still an issue before the United States Court of Appeals for the District of Columbia Circuit. On July 7, 2014, the Commission sought rehearing *en banc* of the court's determinations regarding FERC jurisdiction over demand response resources in wholesale energy markets in *Electric Power Supply Association et al. v. FERC*, the decision vacating Order No. 745. FERC's petition for rehearing *en banc* is pending before the court.

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED THIRTEENTH CONGRESS  
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**House of Representatives**  
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Minority (202) 225-3841  
August 13, 2014

The Honorable Norman Bay  
Commissioner  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Dear Commissioner Bay:

Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 29, 2014, to testify at the hearing entitled "FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and other Grid Reliability Challenges."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Wednesday, August 27, 2014. Your responses should be mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed to [Nick.Abraham@mail.house.gov](mailto:Nick.Abraham@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

**FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, DC 20426**

**OFFICE OF THE COMMISSIONER**

August 27, 2014

The Honorable Ed Whitfield, Chairman  
Subcommittee on Energy and Power  
Committee on Energy and Commerce  
U.S. House of Representatives  
2125 Rayburn House Office Building  
Washington, D.C. 20515

Dear Representative Whitfield:

Thank you for the opportunity to appear before the Subcommittee on Energy and Power on Tuesday, July 29, 2014. Attached are my responses to the Supplemental Questions for the Record posed by members of the Committee.

Sincerely,

A solid black rectangular redaction box covering the signature of Norman C. Bay.

Norman C. Bay  
Commissioner

**ADDITIONAL QUESTIONS FOR THE RECORD  
FOR COMMISSIONER NORMAN C. BAY**

**QUESTIONS FROM THE HONORABLE ED WHITFIELD**

- 1. How many times did you or your staff meet with EPA to discuss the Clean Power Plan proposal?**

Answer: The Environmental Protection Agency (“EPA”) issued its Clean Power Plan proposal in June 2014. At that time, I was the Director of the FERC’s Office of Enforcement. In my duties as Director of the Office of Enforcement, neither I, nor my staff, had any consultation with EPA regarding the proposal.

- 2. Do you view EPA’s proposed Clean Power Plan as an “energy plan” or a “pollution control” rule? Please explain your response.**

Answer: The Supreme Court has upheld the designation of greenhouse gas emissions as a form of pollution under the Clean Air Act, *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007). The Clean Power Plan establishes pollution control guidelines for states to follow in developing plans to address greenhouse gas emissions from existing electric generating units. That being said, state plans developed in response to the Clean Power Plan will have implications for existing electricity infrastructure.

- 3. Would you agree that the proposed Clean Power Plan gives EPA a certain amount of control over State decisions regarding the generation, supply and consumption of power, particularly if State renewable energy and efficiency programs are included in an EPA-approved State Implementation Plan?**

Answer: In establishing state-specific emission goals and guidelines for the development of state implementation plans, the Clean Power Plan may well influence state decisions regarding the generation, supply and consumption of power. The EPA’s proposal offers broad flexibilities that allow states to design state implementation plans that ensure resource adequacy and reliability. The proposal does not impose plant-specific requirements. Nor does it require compliance until 2020, and states have flexibility over a ten-year period through 2029 to reach their overall emission rate target. Much will depend upon the state plan, and the state’s efforts to implement its plan.

- 4. As the D.C. Circuit recently held, FERC lacks authority to dictate how States plan and operate their energy systems. Are you aware of any statutory authority that permits EPA to mandate that States restructure their electric systems and subject State energy decisions to federal oversight and control.**

Answer: I understand your question to refer to *Electric Power Supply Ass’n v. FERC*, Nos. 11-1486, *et al.* (D.C. Cir. May 23, 2014), in which the D.C. Circuit found that demand response was a component of the retail energy market and beyond the scope of the Commission’s direct regulation. FERC’s petition for rehearing *en banc* of that ruling is pending before the Court. Nonetheless, the D.C. Circuit and Supreme Court have recognized that FERC has the authority to regulate matters within its jurisdiction, even if doing so would preempt state law under the

Supremacy Clause of the Constitution. It is my understanding that the Clean Power Plan is premised upon the EPA's authority under section 111(d) of the Clean Air Act, and any questions regarding that authority will ultimately be resolved by the courts.

5. **To what extent does FERC have authority over State utility and resource planning? Are you aware of any statutory authority giving EPA greater authority in this area than FERC?**

Answer: Under the Federal Power Act, FERC is charged with regulating the wholesale sale and transmission of electric energy, primarily by ensuring that the energy is provided at a just and reasonable rate. *See* 16 U.S.C. § 824d(a). The Commission also possesses jurisdiction over practices affecting or relating to the rates for such sale and transmission. *See* 16 U.S.C. § 824e(a). Under the Act, states retain the right to regulate the facilities responsible for the generation of electric energy. In carrying out its statutory responsibilities, the Commission may regulate practices affecting wholesale rates, even if those determinations touch on matters subject to state authority. I have not examined the scope of the EPA's authority under the Clean Air Act or any of the other statutes it administers.

6. **EPA projects nearly 180 gigawatts of generation capacity will retire between 2010 and 2020 in response to the Clean Power Plan and other factors, such as EPA's previously finalized Mercury and Air Toxics (MATS) rule. What do you view as the potential reliability impacts resulting from the loss of 180 gigawatts of generation over the next 6 years.**

Answer: Addressing potential reliability impacts depends upon good communication and planning by and among key stakeholders, including FERC, EPA, DOE, state officials, NERC, RTOs/ISOs, and industry. Currently, the RTOs/ISOs, which serve more than half the United States, do reserve margin planning, states do resource adequacy planning, and NERC does reliability studies as well. FERC staff has also worked with EPA staff and can provide technical assistance to the EPA. I note that the ISO/RTO Council, a national organization of electric grid operators, has offered analytic support to the states in designing programs that maintain the reliability of the bulk power system. In addition, because the Clean Power Plan does not require any compliance until 2020, and gives states flexibility over a ten-year period to reach their overall emission rate targets, I believe that the proposal will empower states to design implementation plans that ensure resource adequacy and reliability.

7. **Would you be supportive of EPA including in its final Clean Power Plan a "reliability safety valve" that provides FERC greater authority to prevent the retirement of reliability critical generating units? What might such a safety valve look like?**

Answer: Under the EPA's rules on power plant emissions of mercury and air toxics (MATS), there is a "reliability safety valve" that allows "fourth-year" extensions of compliance obligations in many circumstances. A "fifth-year" extension can also be granted when needed for reliability, and the EPA may seek input from the Commission and others on reliability issues. I believe that a reliability safety valve should be considered by the EPA.

8. **Has EPA advised you about how the Clean Power Plan would work in states with multiple Regional Transmission Organizations (RTOs) or states with RTO members and non-RTO members or state with no RTO members. If yes, how would the plan work according to EPA?**

Answer: I have not had any discussions with EPA regarding the implementation of the Clean Power Plan. I believe, however, that these issues and others relating to the practical implementation of the Clean Power Plan will need to be discussed among FERC, EPA, DOE, state officials, NERC, RTOs/ISOs, and industry.

9. **EPA analyzed a set of compliance scenarios referred to as “Regional” scenarios. The regional scenarios allow emission rate averaging across affected sources within six multi-state regions, informed by North American Electric Reliability Corporation (NERC) regions and Regional Transmission Organizations (RTOs). What role does FERC see for itself in overseeing such regional compliance efforts?**

Answer: With respect to any role FERC may have in overseeing regional compliance efforts, please see Chairman Cheryl LaFleur’s response.

10. **Do you support the President’s Climate Action Plan? Do you believe the President’s plan is necessary to mitigate the impacts of climate change? Do you believe EPA’s proposed Clean Power Plan is necessary to mitigate the impacts of climate change?**

Answer: I personally believe that greenhouse gas emissions contribute to climate change. I further believe that the failure to act poses serious risks. The President’s Climate Action Plan is a blueprint for action to slow the effects of climate change. That said, the Commission is a creature of statute and must respect the authority given to it by Congress. Under that authority, the Commission is an economic regulator, not an environmental one.

11. **During the hearing, in response to a question from Rep. Rush regarding potential challenges from EPA’s Clean Power Plan, you stated:**

**I think that there could be challenges, but I think that the challenges are manageable. I would note, for example, that with the 2005 baseline that the EPA used, there has already been a 15% reduction in carbon emissions from generators so that an additional 15 percent needs to be achieved over the next 16 years.**

- a. **Do you now understand that the emissions rate baseline used by EPA is actually 2012, and not 2005?**

Answer: In discussing the “2005 baseline,” I was referring to EPA’s projections that the proposed rule will achieve a thirty percent reduction in CO<sub>2</sub> emissions from the electric sector by the year 2030, relative to year 2005 levels. (See 79 Fed. Reg. at pp. 34832, 34839).

It is my understanding that the Clean Power Plan would use 2012 emission data as an input in calculating the proposed goals for state implementation plans. In particular, the methodology used to compute each state’s proposed goal begins by compiling data from total annual quantities of CO<sub>2</sub> emission, net generation, and capacity from reported 2012 data.

- b. **Wouldn't you agree that a 2012 baseline makes compliance a considerably heavier lift than a 2005 baseline? Why or why not?**

Answer: As noted in my previous response, my testimony referred to EPA's projections that the proposed rule will achieve a thirty percent reduction in CO<sub>2</sub> emissions from the electric sector by the year 2030, relative to year 2005 levels. I do not believe that the use of 2012 emission data in calculating the proposed goals for state implementation plans would necessarily affect the ability of the proposed rule to reach the projected level of emission reductions. The EPA's proposal offers states broad flexibility in designing implementation plans. In addition, the proposal does not require any compliance until 2020, and gives states flexibility over a ten-year period through 2029 to reach their overall emission rate targets.

12. **You stated during your confirmation hearing on May 20 that, with respect to EPA's Clean Power Plan, you would "try to assess what the reliability impacts are and what FERC can do working with key stakeholders, like EPA, States, the State Commissioners, NARUC, RTOs, ISOs and industry to assure that there is sufficient planning and preparation and discussion that any challenges can be met."**

- a. **Now that the rule has been out for several weeks, what conclusions do you have about its impact on reliability and rates.**

Answer: It is premature, at this point, to draw any firm conclusions regarding the Clean Power Plan's impact upon reliability and rates. The EPA is still taking comments, and the rule has not been finalized. In addition, any potential impacts depend on the state plans developed in response to the rule. In that regard, the Clean Power Plan offers broad flexibilities that will empower states to design plans that ensure resource adequacy and reliability. As I testified before the Committee, implementation of the Clean Power Plan could present challenges, but the key to addressing those challenges is good communication and planning by key stakeholders.

- b. **Have you discussed the rule with anyone at the EPA? Please provide details with respect to any such conversation(s)?**

Answer: I have not had any discussions with EPA regarding the Clean Power Plan.

13. **Do you intend to identify for us the general circumstances and cases which you may consider recusing yourself from, and the results of those considerations? During your confirmation process, you identified 43 cases which might be subject to recusal. How are we going to know the disposition – and more importantly the extent – of those potential recusals?**

Answer: My recusal decisions will be guided by the Standards of Conduct for Employees of the Executive Branch. *See* 5 CFR Part 2635. Under the Standards of Conduct, employees must recuse themselves to avoid conflicting financial interests (5 CFR § 2635.401 and 402), or loss of impartiality based on personal and business relationships (5 CFR § 2635.501 and 502). Employees must also avoid actions that would give the appearance of an ethical violation. The ethics regulations provide specific criteria for determining whether a recusal is required. My recusal decisions on all matters will be guided by the applicable regulations, and by consultations

with FERC's Designated Agency Ethics Official and any other appropriate officials, and will be made on a case-by-case basis.

The 43 cases identified in my prior testimony reflected the number of pending investigations in the Office of Enforcement at the time of my confirmation. Under the most expansive potential application of the ethics rules, this appears to be the largest set of proceedings from which I could possibly need to recuse myself. In the event recusal is necessary, any published Commission orders relating to those proceedings would note that I did not participate in the consideration of the matter. I have already recused myself from several matters and will continue to do so, as appropriate.

#### QUESTIONS FROM THE HONORABLE JOE BARTON

1. **I am concerned by FERC's practice of withholding evidence and information from the subject of investigation in cases of alleged energy market manipulation.**
  - a. **Please define market manipulation. Can an action deemed "market manipulation" follow the letter of the law but not the spirit? Please provide an example.**

Answer: The Commission's definition of market manipulation is set forth in the Anti-Manipulation Rule (18 C.F.R Part 1c), the Commission's Order No. 670 implementing that Rule, and precedent developed under the Rule. In Order No. 670, the Commission set forth the requirements for finding a violation of the Anti-Manipulation Rule: "The Commission will act in cases where an entity: (1) uses a fraudulent device, scheme or artifice, or makes a material misrepresentation or a material omission as to which there is a duty to speak under a Commission-filed tariff, Commission order, rule or regulation, or engages in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity; (2) with the requisite scienter; (3) in connection with the purchase or sale of natural gas or electric energy or transportation of natural gas or transmission of electric energy subject to the jurisdiction of the Commission."

The Commission adopted the Anti-Manipulation Rule in order to implement Congress's prohibition against fraud and market manipulation as set forth in EPCA 2005, which was passed in the wake of Enron's manipulation of Western energy markets. The Commission's definition was patterned on the Securities and Exchange Commission's core anti-fraud and anti-manipulation rule – as EPCA 2005's prohibition against fraud and manipulation was patterned on and specifically references the Securities and Exchange Act of 1934. Although there are differences in the securities and energy markets, the Commission's enforcement-related matters look to securities law precedent on fraud and manipulation where applicable. Following the Commission's implementation of the Anti-Manipulation Rule, there have been numerous public settlements and orders that have explained, often in great detail, the scope and application of the rule.

In Order No. 670, the Commission stated: “If a market participant undertakes an action or transaction that is explicitly contemplated in Commission-approved rules and regulations, we will presume that the market participant is not in violation of the Final Rule.” The Office of Enforcement did not recommend that the Commission settle any matter or authorize any enforcement action inconsistent with this principle during my time as Director of Enforcement—and the Commission did not take any action inconsistent with this principle during this time. It is also important to note that while a finding of market manipulation is not warranted when a subject acts in a manner that is explicitly contemplated in Commission-approved rules and regulations, it is also true that a finding of market manipulation does not require any violation of a specific market rule or tariff. The Commission has made this clear many times, including in the Order approving the *JP Morgan* market manipulation settlement (issued in July 2013). There, the Commission stated:

Market manipulation under the Commission’s Rule 1c is not limited to tariff violations. That Rule 1c is not so limited is by design. In the wake of Enron’s schemes in the CAISO market, the Energy Policy Act of 2005 gave the Commission “broad authority to prohibit manipulation” and “an intentionally broad proscription against all kinds of deception, manipulation, deceit and fraud.” Both the breadth of Congress’ authorization to the Commission and the breadth of the Anti-Manipulation Rule itself are a response to what courts have long recognized: the impossibility of foreseeing the “myriad means” of misconduct in which market participants may engage. For that reason, as the Commission observed in 2006, “[N]o list of prohibited activities could be all-inclusive.” Instead, as Order No. 670 emphasizes, fraud is a question of fact to be determined by all the circumstances of a case, not by a mechanical rule limiting manipulation to tariff violations. (Footnotes omitted)

So while a market participant should not be liable for acting in a manner that is explicitly contemplated in Commission-approved rules and regulations, the absence of a tariff violation is not a defense to market manipulation.

**b. Is FERC required by law to provide the subject of investigation with the information it collected during the investigation?**

Answer: In most FERC investigations, the vast majority of information collected comes from the investigative subject and its employees, and is therefore readily available to the subject. There is no legal requirement that the Commission provide subjects with information collected from third-parties during the investigation while the matter is still in the investigation phase. Nonetheless, the Office of Enforcement provides a subject with additional information (documents, depositions, data, etc.) during an investigation, including relevant third-party information, so that the subject is fully informed of Enforcement staff’s legal and factual conclusions. Once the matter goes to litigation (whether in federal court or before an Administrative Law Judge), the Commission provides information to the subjects as required by court rules.

Further, in 2009, the Commission formalized its existing policy of disclosing to the subject of an investigation exculpatory evidence obtained in the investigation. This is known as the *Brady* policy, as it is modeled after the *Brady* Doctrine that applies in criminal proceedings. Although