**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."**[1]

    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?**

[1] 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 (EEI) 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.