FEDERAL ENERGY REGULATORY COMMISSION WASHINGTON, DC 20426

November 9, 2017

OFFICE OF THE CHAIRMAN

The Honorable Fred Upton, Chairman Subcommittee on Energy House of Representatives Committee on Energy and Commerce 2125 Rayburn House Office Building Washington, D.C. 20515

Dear Chairman Upton:

Thank you for your October 30, 2017, letter containing additional questions for the hearing record on "Part I: Powering America: Defining Reliability in a Transforming Electricity Industry."

Enclosed please find my responses to your questions. I want to thank you again for the opportunity to appear before the Subcommittee on Energy on September 14, 2017.

Sincerely,	
Singerery,	
Neil Chatterjee	
Chairman	

cc: The Honorable Bobby Rush, Ranking Member Subcommittee on Energy

Attachment Enclosed

Neil Chatterjee, Chairman Federal Energy Regulatory Commission Responses to Question for the Record to Subcommittee on Energy House Committee on Energy and Commerce November 13, 2017

The Honorable Fred Upton

<u>Question 1:</u> As you are aware, New York and Illinois have recently moved forward with a special credit to preserve nuclear power assets and other states are actively considering similar state supports. Those in favor of these "ZEC" credits claim that nuclear power plants provide reliable, zero-emission baseload generation and other benefits.

a. Do you or FERC have a position on the appropriateness of these credits?

<u>Answer:</u> Matters related to the New York and Illinois ZEC programs are currently pending before the Commission, and I cannot speak to the merits of those proceedings. However, the Commission held a technical conference in May 2017 to consider the broader issue of interaction between state policy goals and the competitive wholesale markets. I will continue to work with my colleagues on this important issue.

b. If these nuclear power plants are not needed for reliability, should they be supported by ratepayers if they cannot compete in the market based on cost?

Answer: Ensuring reliability of the bulk-power system is central to the Commission's mission, and all resources should be fairly compensated for the value they provide to the system. As noted above, proceedings involving the New York and Illinois ZEC programs are currently pending before the Commission.

<u>Question 2</u>. In 2014, FERC began a stakeholder process to reform the process through which market prices are determined and paid. This price formation review period has resulted in significant improvements in the accuracy of price signals, but is not complete. Some of the largest market distortions, such as out of market actions and scarcity pricing, has still not been addressed. The DOE grid study identified further price formation reform as its top recommendation to minimize reliability disruptions, specifically identifying reforms from PJM and MISO. Will you commit to making price formation reform a priority during your tenure, particularly as it pertains to supporting base load generators like nuclear and coal? a. Two of the highest impact price formation reforms are expanding pricesetting eligibility and implementing scarcity pricing reforms. What are your views on these price formation issues?

<u>Answer</u>: As I said at the hearing, I will place a high priority on the issue of proper compensation of resources, including nuclear and coal-fired generators, for the value that they provide to the system.

The Commission has taken recent action on both the pricing of fast-start resources and scarcity pricing (or shortage pricing) reforms. On the first of those subjects, the Commission issued a Notice of Proposed Rulemaking for the RTOs/ISOs to address price setting for fast-start resources. The Commission is reviewing comments on the proposed rulemaking, and the subject will continue to be a high priority for me while on the Commission.

On scarcity pricing, the Commission in June 2016 issued a final rule, Order No. 825, which required each RTO/ISO to trigger shortage pricing for any interval in which a shortage of energy or operating reserves is indicated during the pricing of resources for that interval. As with all Commission-approved market reforms, I will monitor the effect of this final rule on the markets, including its effects on resources and load.

<u>Question 3</u>: The DOE Staff Report found that the retirement of base-load coal and nuclear generators has not threatened reliability to date. However, the Report also recommended that FERC explore how to better compensate generators for their resiliency benefits if FERC concludes reliability is threatened.

a. Can you describe what steps FERC has taken to address the issue of compensating generators for reliability and resiliency attributes?

Answer: I understand the importance of ensuring a reliable and resilient bulk electric system for our nation, and I recognize the contributions that coal-fired and nuclear baseload generation traditionally have made toward those goals. The Commission has undertaken several steps to support fair compensation for reliability services. For instance, in 2011 FERC issued Order No. 755, which addressed compensation for frequency regulation in wholesale markets operated by RTOs and ISOs. Order No. 755 required RTOs and ISOs to compensate frequency regulation in a manner that allowed market operators to take advantage of the capabilities of faster-ramping resources to improve operational and economic efficiency of the transmission system and reduce costs to consumers in organized wholesale markets. In June 2016, FERC issued Order No. 825, which aligns the time frames by which resources are compensated and by which resources respond to operating instructions and required RTOs and ISOs to trigger shortage pricing for any dispatch interval during which a shortage of energy or operating reserves occurs. Both of these reforms help maintain reliability by facilitating accurate

market signals of system conditions, which encourages resources to follow commitment and dispatch instructions.

b. How should resiliency be valued?

<u>Answer</u>: This issue is raised in the September 28, 2017, Notice of Proposed Rulemaking proposed by the Secretary of Energy (DOE NOPR). The Commission has invited all interested persons to submit comments regarding the DOE NOPR, including comments on how to define resilience and whether RTO/ISO markets properly value resilience. Those comments should inform me and my colleagues on the issues regarding how to value resiliency. I am working with my colleagues to take action in response to the DOE NOPR.

<u>Question 4:</u> The DOE Staff Report found that FERC should expedite its efforts regarding its price formation efforts. However, FERC has already been working on price formation issues in various dockets since 2014.

a. Can you provide a preview of where these various efforts are heading?

<u>Answer</u>: Although I cannot provide a preview of what the final result of the Commission's price formation efforts will be, I note that I put a high priority on the Commission's ongoing price formation efforts. As part of these efforts, the Commission has issued two final rules: one regarding settlement intervals and shortage pricing (Order No. 825) and one regarding offer caps (Order No. 831). The Commission is reviewing comments in two pending price formation proceedings: the fast-start pricing NOPR (Docket No. RM17-3) and the uplift allocation and transparency NOPR (Docket No. RM17-2).

<u>Question 5</u>: As a regulator, you are undoubtedly concerned with the reliability of the electric grid. At the PURPA hearing on September 6, 201 7, we heard that utilities need the flexibility to curtail QF output for reliability reasons. Do have thoughts on the circumstances under which a utility should be able curtail QF energy to maintain system reliability?

Answer: The Commission's PURPA regulations recognize the importance of system reliability. The regulations permit a purchasing utility to curtail a QF's output on a non-discriminatory basis in system emergencies when the continuation of QF purchases would contribute to such an emergency. The regulations define a system emergency as a condition on a utility's system which is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.

<u>Question 6</u>: Under PURPA, FERC can exercise its enforcement authority to require a state regulatory authority to implement the Commission's regulations. However, during disputes between QFs, utilities, and state commissions, FERC rarely exercises its enforcement authority. Instead, FERC usually issues a "*Notice of Intent* <u>*Not to Act*</u>" which then allows the underlying petitioner to bring its own action before a U.S. District Court.

a. Do you know why FERC is reluctant to use its enforcement authority in such cases?

b. Should any changes be made to PURPA with respect to FERC's enforcement authority?

Answer: In 1983, the Commission issued a policy statement explaining its enforcement role under section 210 of PURPA. See Policy Statement Regarding the Commission's Enforcement Role Under Section 210 of the Public Utility Regulatory Policies Act of 1978, 23 FERC ¶ 61,304 (1983). There the Commission stated that it is not required by PURPA to undertake enforcement action and that it necessarily viewed its enforcement role, given the statutory structure, as limited. Moreover, to ensure the most efficient allocation of Commission resources, rather than participate in the QF litigation cases around the country, the Commission may issue a declaratory order to express its views on PURPA and the relevant Commission regulations and precedent, which aids the court in resolving the parties' litigation. As to changes in PURPA, as I mentioned at the hearing, I believe that any significant changes to PURPA require Congressional action. Nevertheless, I am committed to working with my colleagues to evaluate whether there are areas where the Commission's implementation of PURPA can be improved.

The Honorable Robert Latta

<u>Question 1</u>: The DOE Staff Report found that the retirement of base-load coal and nuclear generators has not threatened reliability to date. However, the Report also recommended that FERC explore how to better compensate generators for their resiliency benefits if FERC concludes reliability is threatened.

a. Can you describe what steps FERC has taken to address the issue of compensating generators for reliability and resiliency attributes?

Answer: I understand the importance of ensuring a reliable and resilient bulk electric system for our nation, and I recognize the contributions that coal-fired and nuclear baseload generation traditionally have made toward those goals. The Commission has undertaken several steps to support fair compensation for reliability services. For

instance, in 2011 FERC issued Order No. 755, which addressed compensation for frequency regulation in wholesale markets operated by RTOs and ISOs. Order No. 755 required RTOs and ISOs to compensate frequency regulation in a manner that allowed market operators to take advantage of the capabilities of faster-ramping resources to improve operational and economic efficiency of the transmission system and reduce costs to consumers in organized wholesale markets. In June 2016, FERC issued Order No. 825, which aligns the time frames by which resources are compensated and by which resources respond to operating instructions and required RTOs and ISOs to trigger shortage pricing for any dispatch interval during which a shortage of energy or operating reserves occurs. Both of these reforms help maintain reliability by facilitating accurate market signals of system conditions, which encourages resources to follow commitment and dispatch instructions.

<u>Question 2</u>: How should resiliency be valued?

<u>Answer:</u> This issue is raised in the September 28, 2017 Notice of Proposed Rulemaking proposed by the Secretary of Energy (DOE NOPR). The Commission has invited all interested persons to submit comments regarding the DOE NOPR, including comments on how to define resilience and whether RTO/ISO markets properly value resilience. Those comments will help inform me and my colleagues on how to value resiliency. I am working with my colleagues to take action in response to the DOE NOPR.

<u>Question 3</u>: Can you talk more about the Critical Infrastructure Protection Standards that FERC and NERC have worked together on? Specifically, could you talk about the tiered approach to cybersecurity that utilities began to implement in 2016?

<u>Answer</u>: On November 22, 2013, the Commission approved Order No. 791, which became effective on July 1, 2016, and implemented a tiered approach to the cyber security controls used to protect the reliable operation of the Bulk-Power System. These tiers (high-impact, medium-impact, and low-impact) specify the level of cyber protection appropriate for systems based upon their importance to the reliable operation of the Bulk-Power System. In general, the systems that qualify as high-impact (e.g., large control centers) and medium-impact (e.g., smaller control centers, plus certain generation and transmission assets) were equivalent to the systems covered under the "non-tiered approach," used prior to July 1, 2016. The inclusion of low-impact systems (e.g., certain substations) now ensures that all cyber systems associated with the reliable operation of the Bulk-Power System receive some level of protection based on their importance to reliable operation.

The Honorable Gregg Harper

<u>Question 1</u>: Are regulated markets seeing the same baseload generation closures as seen in competitive markets? If not, what is protecting baseload generation in regulated markets?

<u>Answer:</u> There has been a national trend of retirements of coal-fired and nuclear generators. There are a number of reasons for the retirements, and the reasons may vary among regions of the country.

The Honorable Adam Kinzinger

<u>Question 1</u>: In this Committee, we recently heard testimony from the RTOs on issues including reliability, resiliency, and the successful operation of wholesale markets. PJM, the RTO that operates in my Congressional District, offered testimony regarding energy price formation reforms and the importance of valuing base load generation. The Department of Energy released a report on grid reliability recently that echoed the importance of energy price formation reform at the FERC.

a. Can you share what FERC plans to do to implement these reforms and when we can expect these reforms to be in place?

<u>Answer</u>: While I cannot discuss specific timelines for Commission action, I note that I place a high priority on the Commission's ongoing price formation efforts. As part of those efforts, the Commission issued two final rules that are currently being put into place by RTOs/ISOs: one regarding settlement intervals and shortage pricing (Order No. 825) and one regarding offer caps (Order No. 831).

In addition, the Commission is reviewing comments in two pending price formation proceedings: the fast-start pricing NOPR (Docket No. RM17-3) and the uplift allocation and transparency NOPR (Docket No. RM17-2).

<u>Question 2</u>: At the recent hearing on PURPA, we heard testimony that QF developers site their project for the benefit of investors, choosing the quickest and cheapest site regardless of the impact to the grid or to reliability.

a. Can FERC take regulatory action to address this concern?

<u>Answer</u>: The fundamental elements of PURPA, such as the requirement that electric utilities offer to purchase electric energy from qualifying facilities, are established by statute. Accordingly, as I mentioned at the hearing, changing these fundamental elements

of PURPA would require congressional action. Nevertheless, I am committed to working with my colleagues to evaluate whether there are areas where the Commission's implementation of PURPA can be improved.

The Honorable Morgan Griffith

<u>Question 1</u>: Last year, FERC issued proposed rules concerning the participation of electric storage resources and distributed energy resources (DER) in wholesale electric markets. Do you have a timeline on moving forward on this? Do you support including in any final rule a role for state and local regulatory authorities to permit an aggregation of distributed energy resources on local distribution grids, similar to the role they have to permit the aggregation of demand response resources?

<u>Answer</u>: While I cannot discuss specific timelines for Commission action, removing barriers to ensure access to the market by all resources is important to me and I expect to act on this matter in a timely fashion. The Commission is currently reviewing the comments filed in response to the proposed rule, including comments regarding the role state and local regulatory authorities play with respect to the local distribution grid.

The Honorable Bill Flores

Question 1: FERC has long held that it "does not pick winners or losers" regarding the fuels for generating electricity—rather its role is to promote competition through market mechanisms.

a. How does this philosophy square with the fact that some generators have characteristics or attributes, such as onsite fuel, that allow them to provide additional value in terms of reliability or resiliency?

<u>Answer:</u> While FERC prefers to rely on competitive forces in appropriate circumstances, it recognizes that other regulatory measures are sometimes necessary in wholesale electricity markets to ensure just and reasonable rates. The appropriate valuation of resilience is an issue in the September 28, 2017 Notice of Proposed Rulemaking proposed by the Secretary of Energy (DOE NOPR). The Commission is reviewing the record in that proceeding, including extensive comments and reply

comments. I am working with my colleagues to take action in response to the DOE NOPR.

<u>Question 2</u>: At last week's hearing on PURPA reform, we heard about situations where a host utility has no need for additional power, but are nevertheless required to purchase the QF output under section 210 of PURPA (i.e, the mandatory purchase obligation).

- a. How do you respond to concerns by utilities that this requirement is causing reliability concerns?
- **b.** Should state commissions be able to suspend the mandatory purchase requirement in situations where it determines that the utility does not need the QF output in order to meet its obligation to serve load?

Answer: The Commission's PURPA regulations permit a purchasing utility to curtail a QF's output on a non-discriminatory basis in system emergencies when the continuation of such purchases would contribute to the emergency. The regulations define a system emergency as a condition on a utility's system which is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.

Section 210(a) of PURPA imposes an obligation on electric utilities to purchase a QF's output. That section provides that the Commission prescribe rules requiring electric utilities to offer to purchase electric energy from QFs. As I mentioned at the hearing, I believe that any significant changes to PURPA require Congressional action; however, I am also committed to working with my colleagues to evaluate whether there are areas where the Commission's implementation of PURPA can be improved.

The Honorable Richard Hudson

<u>Question 1</u>: The DOE recently released an assessment of the electricity grid's reliability and resiliency in the wake of recent baseload power plant closures. While the study confirmed adequate reserve margins and mechanisms to maintain reliability, it identified significant remaining work in the area of grid resiliency. The report recommends that FERC properly value essential reliability services for the grid and create new markets and regulatory mechanisms to compensate market participants for these essential services. As you may know, before losing quorum FERC was in the middle of a "price formation review." Is finalizing that review a priority for you?

a. Do you agree with the Department of Energy that reforms should include measures that adequately value the reliability and resiliency benefits of technologies like nuclear power?

<u>Answer:</u> It is important to ensure that resources providing essential reliability services to the grid are fairly compensated for the value that they provide. As noted in my testimony, FERC has been evaluating the essential reliability services necessary for the reliability of the grid. The Commission also has been actively working to explore issues related to price formation in wholesale markets, and I am committed to continuing to work with my colleagues on these important issues. The issue of the appropriate valuation of resilience is raised in the September 28, 2017, Notice of Proposed Rulemaking proposed by the Secretary of Energy (DOE NOPR). I am working with my colleagues to take action in response to the DOE NOPR.

<u>Question 2</u>: In 2014, FERC began a stakeholder process to reform the process through which market prices are determined and paid. This price formation review period has resulted in significant improvements in the accuracy of price signals, but is not complete. Some of the largest market distortions, such as out of market actions and scarcity pricing, has still not been addressed. The DOE grid study identified further price formation reform as its top recommendation to minimize reliability disruptions, specifically identifying reforms from PJM and MISO. Will you commit to making price formation reform a priority during your tenure, particularly as it pertains to supporting base load generators like nuclear and coal?

a. Two of the highest impact price formation reforms are expanding pricesetting eligibility and implementing scarcity pricing reforms. What are your views on these price formation issues?

<u>Answe</u>r: As I said at the hearing, I will place a high priority on the issue of proper compensation of resources, including coal-fired and nuclear generators, for the value that they provide to the system.

As part of its price formation efforts, the Commission has addressed both pricing of faststart resources and scarcity pricing (or shortage pricing) reforms. On the first of these subjects, the Commission issued a Notice of Proposed Rulemaking for the RTOs/ISOs to address price setting for fast-start resources. The Commission is reviewing comments on the proposed rulemaking. This effort is ongoing and will continue to be a high priority in my work on the Commission.

On scarcity pricing, the Commission issued a final rule in June 2016, Order No. 825. The final rule required each RTO/ISO to trigger shortage pricing for any interval in which a shortage of energy or operating reserves is indicated during the pricing of resources for that interval. As with all Commission-approved market reforms, the Commission and its

staff will monitor the effect of this final rule on the markets, including its effects on resources and load.

<u>Question 3</u>: As intermittent energy sources, such as wind and solar, increase market share and clear as the marginal generator in an increasing number of hours during the day, wholesale power prices have plummeted. This wholesale power drop could eventually force around-the-clock baseload capacity, like nuclear power, out of the market. The DOE grid study recommended that negative price offers be mitigated where possible. What should FERC do in the short- term to further examine some of these market design issues?

a. Will you work with RTOs like PJM to swiftly implement market changes to reduce negative price offers?

<u>Answer</u>: The Commission is actively addressing price formation. While this effort todate has not specifically addressed negative offer prices, the goal of price formation is for market prices to better reflect actual production costs at all times and under all system conditions. I cannot prejudge either the timing or content of any market rule changes relating to negative price offers. Nonetheless, the issue of wholesale power price formation during off-peak periods warrants careful examination, and the impact on the incentives these prices send should be understood prior to the Commission taking action.

<u>Question 4</u>: Over the past year, the Commission has accelerated its efforts to facilitate integration of electric storage projects into wholesale electricity markets. A variety of new storage technologies have emerged, and the Department of Energy and the national labs have programs in place, albeit small, to tackle key performance and cost challenges that inhibit these technologies widespread deployment. What role do you see energy storage playing in the future of the organized wholesale electricity markets and transmission system?

a. What regulatory barriers are in place that inhibit new storage technologies ability to participate in organized wholesale electricity markets?

<u>Answer</u>: I believe that the nation should seek to rely on all forms of energy resources, including storage resources. The Commission recently proposed new requirements to reduce barriers for electric storage participation in organized wholesale electric markets. Those barriers may include issues such as the bidding requirements the ISOs/RTOs impose on resources that want to participate in the wholesale markets. The Commission is reviewing comments on the proposed rulemaking. This effort is ongoing and will continue to be a high priority in my work on the Commission.

b. As FERC looks at properly valuing baseload electricity generation like coal and nuclear, what challenges must the Commission tackle when it comes to storage's benefits to the grid? How should it be compensated for its benefits to grid resiliency and reliability?

<u>Answer</u>: In January 2017, the Commission issued a Policy Statement with respect to electric storage resources that seek to concurrently recover costs through cost-based and market-based rates. In that Policy Statement, the Commission provided flexibility regarding compensating these resources, so long as they meet certain requirements. This guidance is intended to help ensure that these resources can operate at maximum efficiency to benefit the electric system and consumers.

The Honorable Jerry McNerney

<u>Question 1</u>: There's been discussion about the connection between markets and reliability and resiliency. Yet not all states regulators distinguish between reliability and resiliency.

a. Do you believe states should make a distinction between the two?

<u>Answer</u>: Reliability and resilience are two related but different concepts. As discussed in my response to part (c) below, there could be advantages to establishing greater clarity as to the distinction between reliability and resilience.

b. Does the electric sector use a standard definition of resiliency in both the distribution system and the bulk power system?

Answer: I am not aware of commonly used metrics for measuring grid resilience.

c. Are there potential benefits of having a more industry-wide accepted term or definition for resiliency?

<u>Answer</u>: An industry-wide accepted definition of resilience potentially could facilitate: a) quantification and development of metrics to measure resilience; b) development of technology-neutral services to provide resilience; c) determination and justification of the required level of resilience in a region or RTO/ISO; and d) development of a mechanism to procure the services to deliver the required level of resilience in a transparent manner.

<u>Question 2</u>: What barriers exist for utilities and for the federal government as it relates to utilities sharing resources during emergencies, such as hurricane response?

<u>Answer</u>: Utilities routinely offer mutual assistance to speed recovery from major events such as hurricanes and typically have agreements in place to facilitate that assistance. This assistance may be limited by crew availability, e.g., entities providing mutual assistance retain enough crews to maintain their own continuity of operations.

<u>Question 3</u>: Your testimony mentioned that FERC assured companies won't be penalized for helping restore service. What are the potential penalties utilities face in these circumstances and which are FERC waiving?

<u>Answe</u>r: Owners of transmission facilities operated at 200 kV and above are required by NERC Reliability Standard FAC-003-4 to maintain minimum clearance distances between transmission lines and vegetation on and along transmission rights-of-way in accordance with the intervals and specifications of the entity's vegetation management work plan. Failure to complete the required tasks without documented modifications could result in penalties of up to \$1.2 million per day per violation.

In a statement I issued jointly with NERC President and CEO Gerry Cauley on September 12, 2017, we indicated that we would consider the actions of entities assisting others from the impacts of Hurricane Irma to be positive and to not negatively impact compliance considerations with respect to Reliability Standard FAC-003-4.

<u>Question 4</u>: CIP standards are frequently updated given a rapidly evolving electric grid. Has FERC received comments from industry stakeholders regarding difficulties implementing CIP standards while new versions of CIP standards are being developed simultaneously?

Answer: Industry stakeholders have commented on the difficulties of implementing these sometimes overlapping revisions. In response to these comments, the Commission has extended the effective date of an approved, yet not effective, CIP Reliability Standard, which has the effect of minimizing the burden from potentially overlapping revisions. The Commission is sensitive to the implementation difficulties industry may encounter in implementing revised CIP Reliability Standards and will continue to work with industry stakeholders to identify and address these difficulties while maintaining the security of the bulk-power system.

<u>Question 5</u>: How does additional behind-the-meter activity at the distribution level potentially affect the bulk power system? Is behind-the-meter information and data being shared between utilities, state regulators, and federal entities – including FERC, NERC, and DOE? Are there areas for improvement?

<u>Answer</u>: Additional behind-the-meter activity can alter how the distribution system interacts with the Bulk-Power System. Industry has identified several potential Bulk-Power System reliability issues resulting from increased distributed energy resources

(DERs), including increased ramping requirements and challenges with forecasting load. These are important issues that Commission has begun to explore in the context of the ongoing rulemaking proceeding addressing the integration of electric storage resources and aggregations of distributed energy resources.

NERC recently published a Reliability Guideline that outlined the minimum data needs for bulk power system planners and operators. The NERC DER Task Force recommends that, even in regions with currently low penetrations of DERs, minimum data collection requirements for interconnected DERs be established to help adequately assess future DER deployments. DOE, EIA, and FERC collect some general information on behindthe-meter aggregated capacity, but this data is not sufficiently specific or detailed to address the Bulk-Power System minimum data needs outlined by NERC.

The Honorable Peter Welch

<u>Question 1</u>: In DOE's recent request that FERC raise the price of so called "baseload power" to keep coal and nuclear plants online, the agency says it's necessary because of "energy outages expected to result from the loss of this fuelsecure generation" and because of "recognition that organized markets do not pay generators for all the attributes they provide."

- a. Whether or not that is true, do you believe generators of solar, wind, and energy storage are compensated fully for their attributes in wholesale markets?
- **b.** Do wholesale markets price any electricity source based on their attributes and how they benefit the public?

Answer: As noted in my testimony, FERC generally has remained resource- and fuelneutral in fulfilling its core obligations to ensure the reliability of the bulk-power system and to maintain just and reasonable wholesale electric rates. The Commission seeks to ensure that all generators, including solar, wind and energy storage, are fairly compensated for the value they provide to the bulk power system. For instance, in 2011, FERC issued Order No. 755, which allowed market operators to take advantage of the capabilities of faster-ramping resources, including energy storage resources, to improve operational and economic efficiency of the transmission system and reduce costs to consumers in organized wholesale markets. More recently, on November 17, 2016, the Commission issued a Notice of Proposed Rulemaking on electric storage participation in RTO and ISO markets. The NOPR proposed in part to require each RTO and ISO to reduce barriers to participation of electric storage resources in the organized wholesale capacity, energy and ancillary service markets.

c. Do you think DOE is suggesting that FERC create a Value of Coal Tariff to price in non-monetizable attributes?

<u>Answer</u>: DOE has asked the Commission to evaluate whether there are steps the Commission may take to address the value that certain resources may bring to the organized markets that may not be recognized today.