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Second Installment
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Statement of Jay Morrison, Vice President, Regulatory Issues
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Thank you for the opportunity to address this esteemed group. My name is Jay Morrison, and I am Vice President of Regulatory Issues for the National Rural Electric Cooperative Association (NRECA). We've been asked today to speak to the many responsibilities and challenges involved in the maintenance and operation of the bulk power system of generation and transmission. I have chosen to focus my remarks to highlight what we consider to be the three most pressing challenges currently confronting NRECA's members:

- First, we need your help to ensure that we can meet our collective challenge of implementing EPA's Clean Power Plan (CPP) in a manner that preserves the reliability and affordability of power for all consumers. NRECA asks DOE's help in continuing to impress upon EPA that industry requires both time and flexibility to comply reliably with the CPP;
- Second, we hope that the QER1.2 will recognize the extraordinary uncertainty the CPP and other changes taking place in the industry impose on states, utilities and consumers. It is simply unclear what new generation, transmission, and infrastructure the industry will require, when and where it will be needed, how long these investments will continue to be used and useful, who will benefit from these investments, who will pay for them, or how much they will cost; and
- Third, it is essential that regulatory systems and market structures enable load-serving entities (LSEs) like cooperatives the flexibility to make local decisions that allow them to optimize a diverse portfolio of resources, including generation, transmission, distribution, and demand-side resources on behalf of their consumers in light of local conditions and their local consumers' preferences.

Introduction to NRECA

NRECA is the national service organization dedicated to representing the more than 900 consumer-owned, consumer-governed, not-for-profit cooperative electric utilities and the consumers they serve. Our member cooperatives were formed to provide reliable electric service to their member-owners at the lowest reasonable cost. More than simply a service, electrification transformed nearly every aspect of the lives of millions of rural Americans, literally uplifting them from darkness by bringing quality of life and innumerable health benefits, eliminating household drudgery, and vastly increasing productivity and economic well-being.

Today, our member cooperatives provide electricity to over 42 million people in 47 states, many of whom are in "persistent poverty" counties, and they do so in an environment of ever-increasing regulatory mandates, geographical constraints, and demographic challenges. Rural electric cooperatives serve large, primarily residential, low-density geographic regions where the costs of infrastructure and of providing service are high and the revenues are low. The low population density of rural areas affects not only the cost of providing electricity, but also electricity demand, making rural Americans even more vulnerable to rising electricity costs. Together, these forces combine to establish rates that are higher compared to those charged to customers of nearby IOUs, forcing already-disadvantaged rural customers to pay an even higher percentage of their income on electricity. Because many rural residents do not have access to natural gas and must depend on electricity and expensive propane and heating oil for warmth during the cold winter months, rural Americans lack practical, affordable alternatives they can turn to when their electric rates rise.

To these challenges, the CPP adds its own host of problems. Most cooperative utilities are small and do not have a diversified generation portfolio. In 2012, 70 percent of co-op generated kilowatt hours came from coal. Co-ops owning one unit, only part of a unit, or only coal generation do not have the ability to dispatch other lower-emitting units in order to meet a standard. Further, 70 percent of cooperative-owned coal generation was built from 1975 to 1987 during the Oil Embargo and Fuel Use Act years, when Congress essentially banned the use of natural gas for electricity. These coal units still have significant remaining useful life. While the best available control technology for pollution reduction was installed when these units were built, co-ops also have spent billions of dollars on pollution control upgrades over the course of the last several years to meet current EPA regulations. In some cases, the cost of these upgrades exceeded the original cost of the power plant. As a result, many co-ops have outstanding loans on many of these facilities and must dispatch these units to generate adequate revenue in order to repay the loans. If these facilities are forced to shut down in order to comply with the CPP, the co-op's member-owners will still have to bear the costs of repaying the outstanding debt, while incurring additional cost for replacement power from the market, if it's even available, or the cost of new generation. Cooperative utilities are not-for-profit entities and do not have financial flexibility. All of these costs are passed on directly to co-op member-owners through their electricity bills.

While in many instances, the CPP may force a utility to choose between providing reliable service or potentially having to shed load to meet an emissions reduction requirement, there is a third potential outcome. That third outcome is providing reliable service, but at a significantly higher – and possibly unjust and unreasonable – cost. It may be possible to "keep the lights on" from a technical standpoint, but the economics and the ultimate cost to the consumer in many cases will be prohibitive. The choice for many may be between paying an electric bill or paying the mortgage. Electricity is not a luxury. It is vital for business and an essential element of modern residential life. For isolated rural residents, reliable electricity service can be a matter of life and death.

DOE Must Be Actively Involved in the CPP

In the CPP, EPA directed states to evaluate the impacts of their proposed plans on reliability, but did not include any provision for addressing the reliability challenges that states might discover. As NERC has identified in its Phase I Report[1] and its January 2016 Reliability Considerations for Clean Power Plan Development,[2] those challenges could be significant. The dramatic changes that state plans may have to make to utilities' resource mixes could, for example, undermine the system's access to essential reliability services and to reserve margins. They could change generator cycling and operations in a manner that increases cost and undermines the reliability of the system. And they could require changes to infrastructure faster than can practicably be achieved. EPA's estimates of the need for new transmission and the time it will take to build that transmission are woefully inadequate.

Thus, over the next two and one-half years, as States, NERC, and the regional reliability entities evaluate the reliability impacts of states' proposed implementation plans, we ask DOE to stay close. DOE must help EPA to understand the reliability risks inherent in the CPP and the real challenges the states will have implementing the CPP. And*, if the states' and industry's reliability evaluations demonstrate that more flexibility is required with respect to the depth or speed of emissions cuts, the industry will need DOE to intervene with EPA to press for that flexibility*. It is not enough to see an iceberg ahead, or to ring the alarm bells, if we are not given the flexibility to steer away from it.

DOE must also act during the interagency review process to ensure that a similar review will take place and similar flexibility will be offered before the EPA imposes a federal plan on any state. While EPA states, in the preamble to the Proposed Federal Plan/Model Trading Rules, that it is considering reliability in the development of the federal plan, it appears that EPA has confined its consideration of reliability to its formulation of the model trading rules,

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[1] *Potential Reliability Impacts of EPA's Proposed Clean Power Plan*, Phase 1, April 2015; http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential%20Reliability%20Impacts%20of%20EPA%E2%80%99s%20Proposed%20Clean%20Power%20Plan%20-%20Phase%20I.pdf

[2] *Reliability Considerations for Clean Power Plan Development*, January 2016; http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Reliability%20Considerations%20for%20State%20CPP%20Plan%20Development%20Baseline%20Final.pdf

which cannot account for state-specific reliability issues that may later arise. EPA also fails to propose a specific mechanism or provide any explanation of how reliability adequacy will be evaluated in imposing a federal plan or approving a state plan.

DOE must also be involved down the road to press EPA to provide needed flexibility in timing and reduction levels should the system experience a contingency that makes ongoing compliance with a state or federal plan impossible consistent with reliability and affordability. EPA has included robust reliability safety valve provisions in other rulemakings affecting the electric utility industry, such as in the Mercury and Air Toxics Rule,[3] to ensure that individual sources can meet unexpected electricity needs, such as might occur during heat waves, extreme cold spells, or due to the unexpected retirement or failure of other units. But, the reliability safety valve EPA included in the 111(d) Rule is completely inadequate. It provides only for a one-time, 90-day reprieve from emission standards, after which the state plan must be amended to account for the increased emissions from a reliability-critical event.[4] This safety valve provision is unduly restrictive, and far more limited than in other rulemakings. And even this nominal provision is not to be found in the proposed federal plan. The plan appears aimed solely at short term system disturbances and does nothing to preserve the reliability and affordability of power should the system lose a major system element such as a nuclear resource or a major transmission line for an extended period of time.

Consideration of reliability cannot truly be effective without an express and robust dynamic reliability safety valve provision. The resources on the grid and their ability to serve customers' energy needs change dynamically in response to intentional and unintentional changes in grid architecture, market design and market conditions, and technology, as well as unforeseeable events such as fires, floods, ice storms, and even economic growth and contractions. A one-time, 90-day reprieve is wholly inadequate to preserve reliability.

Implementation of the CPP is Fraught with Uncertainty

The CPP effectively phases out the use of coal as a future generation resource in the United States. This is a dramatic shift and has significant implications for the diversity of the U.S. electricity generation portfolio, for electricity suppliers, and for their customers. Thus, the CPP will require a dramatic retooling of the electric and gas industries, with dramatic increases in renewable resources, significant short-term increases in gas generation, and considerable investment in transmission and gas infrastructure. Replacing baseload capacity, forced into an early retirement as a result of the CPP, while managing an increasingly variable energy mix will

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[3] Clean Air Act Section 112(i)(3)(B) provides statutory authority to grant extensions for Section 112 regulated entities, and 40 C.F.R. 63(i) contain the regulations setting forth the requirements for extensions.
[4] 80 Fed. Reg. at 64,877-78; 40 C.F.R. §§ 60.5785(e), 5870(g)(1).

be the primary challenge to electric reliability in the coming decades. Based on what is now known about the performance of coal units, it seems certain that even if the units currently slated or considered for retirement are replaced with natural gas generation capacity, removing these historically dependable units from the grid will compromise and threaten reliability, and increase the probability that gas delivery problem and price volatility will only get worse in the near term during peak load or other extreme weather events.

NERC's Phase I Report on the potential risks to reliability that may arise from the implementation of the CPP found that the CPP will accelerate the fundamental shift in the nation's electricity generation mix toward greater natural gas and renewable utilization, introducing drastic changes to use and operational behavior of the bulk power system. One of the key findings of the Phase I Report is that timing implications could impact reliability due to inadequate resources in certain areas. Generating unit additions and the accelerated change in resource mix will require permitting, planning, and construction of facilities to support the voltage profile, as well as transmission of power to the point of interconnection. Given the average lead time for these activities, only approximately 20 percent of the capacity required will be available by 2020, and the generation and transmission additions and upgrades necessary to fulfill the capacity requirements will not be completed until 2031.

Based on NERC's survey, it historically takes an average of **64 months** to complete all necessary planning, permitting, and construction for a new combined-cycle gas turbine facility.[5] The average for a utility-scale solar generation project is 36 months, while the average for wind is 39 months.[6] A natural gas pipeline project requires approximately three years from conception to a finished product that has been placed into service.[7] While there may be some overlap between right-of-way acquisition and permitting, the majority of each project's timeline is taken up during the construction phase. Further, as capacity needs for gas pipelines increase, enhancements to the pipeline system are likely to occur in the form of increasing pipeline sizes or diameters. As pipelines are constructed, existing pipelines may need to come out of service to accommodate the upgrade, which can create some short-term issues and require tight coordination between the gas and electric industries.

Further, it is possible that state plans will not be finalized until the 2018-19 timeframe, leaving little time for decisions on infrastructure changes before 2020. If coal plant retirements are part of the compliance strategy for 2020, capacity additions in a two-year window may be difficult.

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[5] *Potential Reliability Impacts of EPA's Proposed Clean Power Plan*, Phase 1, April 2015; http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential%20Reliability%20Impacts%20of%20EPA%E2%80%99s%20Proposed%20Clean%20Power%20Plan%20-%20Phase%20I.pdf

[6] *Id.*

[7] *Id.*

In light of the uncertainties investors face, and the certain disputes that infrastructure investments will raise over siting and cost-allocation, it is at best unclear whether the industry will be able to make the necessary investments within the time frame required by the CPP.

The industry faces more uncertainty because no one knows how each of the states will choose to comply with the CPP. Will a state choose to comply by shutting down units within the state or by relying on the trading market to provide the emissions credits required to run plants within the state? Will the state allocate credits to units that serve load within the state and deny credits to plants needed by neighboring states? Will states comply by building more gas generation, necessitating investment in new gas pipeline and storage infrastructure or by relying on wind generation, necessitating investment in new transmission?

Those decisions are themselves fraught with uncertainty because they are affected by decisions made by other states and by federal regulators. If a state chooses to rely on credit trading to comply, will enough other states require changes in generation to free up the required credits? If a state chooses to rely on distant wind generation, will states the transmission must cross permit it to be built in a timely manner or at all? Who will pay for that new infrastructure, and will those likely to be allocated costs fight the construction of the infrastructure? If a state relies on new gas generation to comply, will new environmental regulations on fracking or methane leaks or future tighter standards on emissions from gas EGUs strand those investments? Will new investments in gas and transmission infrastructure and new investments in large scale renewables be stranded by developments in distributed energy resources? What impact will all of the costs of this new investment have on the economy? Will investments in infrastructure be stranded because industries move overseas or simply close?

Regulatory and Market Structures Must Enable LSEs to Address Risks and Challenges

This uncertainty makes it more important than ever that regulatory and market structures permit state and local regulators and utilities to make decisions locally, in light of local conditions, that allow them to optimize balanced portfolios of investments in resources in ways that benefit all consumers. Now is not the time for federal regulators or wholesale market designs to promote specific policies or technologies or to try to drive a single vision of the future. No ship captain should be asked to steer into uncertain and rocky waters with his or her rudder locked in one position.

Congress tried to help the industry through a prior fuel "crisis," with the Fuel Use Act, and effectively prohibited the use of natural gas as a generating fuel. Instead, the White House and Congress pressed utilities to build the same coal plants that it is now encouraging industry to shut down. We do not know today whether the answer in the future will be gas, wind, central-station solar, roof-top solar, nuclear, or coal with carbon-capture and beneficial re-use. We do know that government does a poor job of picking winners and losers. We know that one-size is not going to fit all.

Instead, where they still operate and still provide that service to consumers, it is essential that we allow LSEs to operate and manage the system in an integrated manner so that they can manage multiple risks across interdependent infrastructures in a holistic way, keep power affordable and reliable, offer consumers the benefits of new technologies and services as they become a cost-effective part of the portfolio, and allow individual consumers to invest in new technologies themselves consistent with all consumers' interest in safe, reliable, and affordable power.

We must avoid policies that undermine the role of LSEs in performing that role. At the wholesale level, for example, NRECA has worked to preserve the ability of LSEs to serve load using the combination of self-owned, contracted-for, and market resources that best enables them to meet the long-term needs of their consumers with reliable, affordable and safe electric service. At the retail level, for example, we have expressed concern about state policies that permit third-party providers to undermine the relationship between consumers and their cooperatives and thus undermine the cooperatives' ability to manage risks and costs on behalf of all of their members.

In conclusion, I am grateful to have had the opportunity today to share NRECA's perspectives on the pressing challenges confronting our industry. We will need to work together to address these challenges in a manner that preserves the reliability and affordability of electricity for all consumers, and we ask for DOE's help to prevail upon EPA to provide industry the necessary time and flexibility to comply reliably with the CPP. We hope that this coming phase of the QER will recognize the extraordinary uncertainty created by the confluence of the CPP and other changes taking place in the industry, and the stress that this uncertainty imposes upon states, utilities, and consumers. During these uncertain times, it is essential that regulatory systems and market structures allow LSEs the flexibility to make local decisions that will allow them to make the best choices on behalf of their consumers in light of local conditions and their local consumers' preferences. Thank you, and I look forward to the discussion.