**Subcommittee on Environment, Manufacturing and Critical Minerals**

**Clean Power Plan 2.0: EPA's Latest Attack on America's Electric Reliability**

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**Additional Questions for the Record**

## The Honorable Randy Weber

**1.** The EPA's proposed rule would require that new baseload natural gas electricity generation units must either co-fire with "clean" hydrogen or implement CCS starting in the early 2030's. Can you please elaborate on the potential risks of mandating the use of another form of energy (hydrogen) that currently only accounts for roughly one percent (https://www.governing.com/next/is-this-the-beginning-of-a-hydrogen-economy-in-the-u-s) of the nation's electricity consumption when the infrastructure to facilitate hydrogen creation and transportation of the product is currently underdeveloped?

**a. What would be the construction burden and cost of constructing hydrogen capabilities on existing facilities?**

**b. If facilities are unable to meet these requirements due to infrastructure (pipelines, etc.) problems outside of their control, what will happen to the facilities and the overall effect on our nation's electricity generation capacity?**

EPA's proposed rule would require an enormous hydrogen infrastructure system to be designed, built and operational by 2032 with an even greater scale expansion by 2038. It is unclear how much "clean" hydrogen could be produced by 2032, but what is clear is that there are many infrastructure hurdles that must be overcome, and that the production of this volume of "clean" hydrogen would require a tremendous amount of electricity (estimated at 25% of the output of current baseload natural gas fleet). EPA's proposed rule would require construction of hydrogen electrolyzers many times greater than what currently exists in the world. Then there are issues with where hydrogen production would be located as it requires massive inputs of water and electricity. This means a nationwide transportation network for hydrogen will also be required. Finally, the production and transport delivery rate of hydrogen is unlikely to match the input requirements of baseload natural gas units, likely requiring large scale on-site or local storage facilities at each baseload natural gas plant. While the exact cost of the hydrogen infrastructure required is difficult to estimate, it is clear that it will result in massive capital investments and resulting additional costs which are of a greater scale than the current fuel supply infrastructure. EPA's proposed rule requires this entirely new industry to be up and running in less than 10 years.

It is certain that many existing natural gas baseload facilities will either be unable or will choose not to meet the new hydrogen fuel requirements which will reduce available electric supply (in addition to reductions in coal based electric supply) at a time when significant added electric demand is expected to be required by the transportation sector.

**2. If this misguided rule were to go into effect and coal and natural gas plants had to meet the requirements set by 2030—with all the construction time and enormous costs in mind—**

**would you hazard a guess on how many plants would even meet these requirements (10%, 20%...)?**
**a. Do you believe that these onerous requirements and costs will dissuade future investments in additional facilities?**

I'm unable to provide an accurate estimate, but my expectation would be that most coal plants will be unable or unwilling to meet the proposed requirements and that many baseload natural gas plants will be unable or unwilling to meet the proposed requirements. This reduction in supply will occur as demand for electricity from the transportation sector is expected to increase dramatically. The level of future investments this proposed rule will require will necessarily result in much higher electricity prices. The willingness of entities to make this scale of investment will be based on expectations of their ability to recover these investments. Personally I see the recent actions of this EPA as creating massive unnecessary stranded costs in the electric and fuel supply industries that is likely to dissuade many from making further large scale investments.

**The Honorable Russ Fulcher**

**1. What is the risk to baseload reliability in the EPA's proposed Clean Power Plan 2.0 rule when it comes to demand and stress on the grid?**

A reliable and well-functioning electric system requires a mix of baseload and relatively fast responding peaking plants. The EPA's proposed rule is almost certain to force the closure of most baseload coal plants and many baseload natural gas plants. In fact, it's unclear if any baseload plants will be able to comply with the technologies and deadlines required under the proposed rule. We expect the demand for electricity to grow significantly from electrification of much of the transportation system over the next 10 years. The electric system today is under significant stress during extreme weather events. The closure of many baseload plants in this relatively short time frame of less than 10 years is certain to have negative effects on the reliability of the electric system and result in would stress on the grid more often than we have experienced.

**2. What is the loss to economic growth of curtailing these lower emission fuels and disruptions to the market, such as the vast majority or all(?) of the coal-fired power plants, but also a substantial number of natural gas-fired power plants?**

The proposed rule will create economic harm from stranded costs across much of the electric supply and fuel supply industries. Closing of coal and natural gas baseload power plants will have severe negative effects in the communities where they are located. More importantly the negative effects on the reliability of our electric supply system will have severe negative impacts on people and businesses across the country, not just in economic terms but in terms of safety, security and health impacts.