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Air and Radiation Docket and Information Center
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Re: Proposed Carbon Pollution Standard – 77 Fed. Reg. 22392 (April 13, 2012)
Docket ID No.: EPA-HQ-OAR-2011-0660

Dear Administrator Jackson:

On March 27, 2012, the U.S. Environmental Protection Agency (EPA) proposed the first Clean Air Act standard concerning greenhouse gas pollution from electric utility generating units (EGUs). The proposed rule, *"Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units"* is aimed at reducing emissions of carbon dioxide from new power plants. The proposed rule was published in the Federal Register on April 13, 2012 (77 Fed. Reg. 22392), with public comments due by June 12, 2012. The EPA later extended the comment period to June 25, 2012. The Alabama Public Service Commission (APSC) appreciates the opportunity to file comments in this proceeding.

The APSC regulates essential utility services throughout many parts of Alabama, including the electric utility service provided by Alabama Power Company. As a regulatory body, we are responsible for balancing the interests of our regulated utilities with those of the consuming public, with the ultimate goal being the provision of reliable service at rates that are fair and reasonable. To that end, the APSC must necessarily consider the impacts of any pollution control investments, plant retirements, investments in new generation plants, and other utility actions that may be triggered by compliance with the proposed Carbon Pollution Standard for New Power Plants.[1]

The issues we are raising are critically important to the citizens we serve and more than justify careful consideration of the proposed rule. Specifically, the APSC's comments are focused

[1] For this same reason, the National Association of Regulatory Utility Commissioners ("NARUC") has urged state utility regulators to engage with EPA on this issue.

on: 1) the connection between greenhouse gases, climate change and public health, 2) cost impacts, 3) economic impacts and 4) carbon capture and storage technology. These considerations are all the more important given the fragile state of our economy.[2] This fact, combined with the economic impacts resulting from a series of regulations either proposed or recently issued by the EPA, heightens our concern and lends further support for these comments urging the EPA to strike a reasonable balance between environmental protection and affordable electricity.[3]

DISCUSSION

1. The Connection between Greenhouse Gases, Climate Change and Public Health

The EPA's justification for proposing a carbon pollution standard for new power plants is based on its "determination that greenhouse gas pollution threatens American's health and welfare by leading to long lasting changes in our climate that can have a range of negative effects on human health and the environment."[4] Specifically, the *EPA FACT SHEET: Proposed Carbon Pollution Standard for New Power Plants*, states that:

- Carbon pollution stays in the atmosphere and contributes to climate change, which is a threat to public health and the environment for current and future generations.
- Unchecked greenhouse gas pollution threatens Americans' health and welfare by leading to long-lasting changes in our climate, with impacts that could include:
    - Increased ground level ***ozone*** pollution, otherwise known as smog. Exposure to ground level ***ozone*** is linked to asthma and premature death.
    - Longer, more intense and more frequent heat waves.
    - More intense precipitation events and storm surges.
    - Less precipitation and more prolonged drought in the West and Southwest.
    - More fires and insect pest outbreaks in American forests, especially in the West.[5]

Unaddressed by these statements, however, is the fact that scientists and climatologists continue to disagree as to whether human activities, and more specifically greenhouse gas emissions, are the primary driver of climate change (versus, for example, solar cycles) and whether

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[2] According to HIS Global Insight, an Englewood, Co. based forecasting firm, it will take Alabama as long as five years to recover the jobs it has lost since the beginning of the recession. Alabama is among five states that won't see a return to peak employment until 2016 – 2017, the firm said in data released May 21, 2012. The other states are Florida, Ohio, Arizona and Rhode Island.

[3] Because of the economic ramifications of such restrictions, there are those, including the Cato Institute, who feel strongly that the negative economic effects of emission controls outweigh the environmental benefits. ("Global Warming, the Anatomy of a Debate: A speech by Jerry Taylor of the Cato Institute". http://www.cato.org/speeches/sp-jt011698.html.)

[4] http://epa.gov/carbonpollutionstandard/pdfs/20120327factsheet.pdf. EPA FACT SHEET: Proposed Carbon Pollution Standard for New Power Plants, p. 1.

[5] http://epa.gov/carbonpollutionstandard/pdfs/20120327factsheet.pdf. EPA FACT SHEET: Proposed Carbon Pollution Standard for New Power Plants, p. 3-4.

environmental regulations in the United States alone can have any effect on global climate change. [6] Dr. John Christy, who is a climate scientist at the University of Alabama in Huntsville (UAH) focusing on satellite remote sensing of global climate and global climate change, has testified: "From my analysis, the actions being considered to 'stop global warming' will have an imperceptible impact on whatever the climate will do, while making energy more expensive, and thus have a negative impact on the economy as a whole. We have found that climate models and popular surface temperature data sets overstate the changes in the real atmosphere and that actual changes are not alarming."[7]

Regardless of any presumed correlation between climate change and utility carbon emissions, the EPA has further concluded that greenhouse gases contribute to ground-level ozone and therefore, the EPA seems to further justify the proposed carbon standard on a need to regulate ground-level ozone. However, the EPA currently has in place several standards for the purpose of regulating ozone – namely the National Ambient Air Quality Standard (NAAQS) for Ozone, regional transport rules such as the Clean Air Interstate Rule (CAIR) and the Cross-State Air Pollution Rule (CSPAR), and State Implementation Plans designed to ensure attainment of the NAAQS for Ozone. Given the existing suite of regulations targeted at the prevention of Ozone formation, EPA should clearly justify why these rules are insufficient before concluding that additional regulation is necessary.

The APSC believes a more measured response would be to delay greenhouse gas regulations until more precise scientific evidence can be obtained in support of the EPA's claims. Therefore, the APSC encourages the EPA, in its deliberations for a final standard for carbon pollution, to consider Dr. Christy's testimony in 2009 and 2011 and strive to balance its concern for public health with the costs and economic impacts associated with a new carbon pollution standard. Perhaps greater public benefits could be achieved through alternative approaches – such as infrastructure improvements and hardening of the electric systems so as to improve the country's resiliency in the face of naturally occurring extreme weather events.

2. Cost Impacts

A fundamental goal of the APSC is to strike a reasonable balance between affordable and reliable electricity for Alabama consumers. One of the criteria to achieving long-term affordability and reliability is maintaining a balanced mix of generation resources such as: hydro, natural gas, coal, nuclear, renewables and demand response measures such as energy efficiency and conservation. It is the APSC's concern that the additional costs associated with the Carbon Pollution Standard, and other recent proposals and regulations of the EPA, will constrain the mix of future generation

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[6] Other factors that have been identified as potential contributing sources to climate change include: ocean currents, volcanic aerosols, urban heat islands, and deforestation.

[7] http://waysandmeans.house.gov/media/pdf/111/ctest.pdf. Christy, John (November 25, 2009), *House Ways and Means Committee written testimony.* See also, Christy, John (March 8, 2011), *Subcommittee on Energy and Power, Committee on Energy and Commerce written testimony.*

http://republicans.energycommerce.house.gov/Media/file/Hearings/Energy/030811/Christy.pdf ("[T]he impact of legislative actions being considered on the global temperature is essentially imperceptible. These actions will not result in a measurable climate effect that can be attributable or predictable with any level of confidence, especially at the regional level.""

resources by effectively banning coal as a generation fuel resource. The APSC maintains that handcuffing the nation's ability to use one of its most abundant resources for the production of low-cost domestic energy – coal - is counter-productive to achieving the nation's goal of energy independence and security. Similarly, constraining our nation's fuel options would impose an unnecessary risk in that it would be a mistake for our country to invest predominantly in natural gas-fired generation resources, particularly given the historic volatility of that commodity.[8]

In the *EPA FACT SHEET: Proposed Carbon Pollution Standard for New Power Plants*, the EPA states, "Because this standard is in line with current industry investment patterns, this proposed standard is not expected to have notable costs and is not projected to impact electricity prices or reliability."[9] The EPA's approach is predicated in large part on an assumption that a recent decline in natural gas prices is sustainable and will result in few, if any, coal-fired plants being constructed in the "foreseeable future." The EPA's conclusion may prove short-lived, however, in that it is highly conceivable that current industry investment patterns have been significantly influenced by regulatory uncertainty and industry's anticipation of a new carbon pollution standard, together with recently proposed and new regulations issued by the EPA. Examples of such other proposals and regulations include: the Mercury and Air Toxics Standard; greenhouse gas permitting rules for major modifications or new facilities; the boiler MACT or maximum achievable control technology rules; National Ambient Air Quality Standards; the Cross-State Air Pollution Rule; and the rules concerning coal ash and water intake structures.

Aside from the cost impacts associated with the proposed carbon standard, the APSC is more concerned with the cumulative cost impacts associated with a series of regulations either proposed or recently issued by the EPA. Importantly, the APSC is not aware of a comprehensive study performed by the EPA, with the assistance of industry experts, which considers and explains the cumulative costs impacts resulting from implementation of, and compliance with, these various rules.

Due to the fact that regulated utilities will certainly have to consider the cost impacts of all proposed rules and regulations before making long-term decisions concerning resource planning, the APSC believes it is of significant importance for the EPA to perform a comprehensive cost analysis. That analysis cannot merely examine each proposed rule in isolation, but instead should consider the cumulative cost impacts of all such proposals. Moreover, we believe it is important for the consuming public to be advised of the potential total rate impacts associated with implementing the full suite of the EPA's recently proposed and new regulations. [10]

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[8] http//en.wikipedia.org/wiki/File:Henry_hub_NG_prices.svg (charting price volatility of Henry Hub natural gas prices from 2000 through 2009).

[9] http://www.epa.gov/carbonpollutionstandard/pdfs/20120327factsheet.pdf. EPA FACT SHEET: Proposed Carbon Pollution Standard for New Power Plants, p.3.

[10] In recognizing the value of a broad analysis that seeks to evaluate combined effects, the EPA, in an April 5, 2012 letter, inquired of the U.S. Army Corps of Engineers about the possibility of adverse health effects caused by the potential development of several new coal export terminals on the West Coast and requested the U.S. Army Corps of Engineers to study the "cumulative" impact that the coal terminal projects could have on human health and the environment.

In a similar vein, The White House Office of Information Administrator, Cass Sunstein, recently issued a memorandum to the heads of federal agencies that outlined the details of new guidance on consideration of "cumulative impacts" of regulations. His memo said agencies should take active steps to take account of the cumulative effects of new and existing rules and identify opportunities to harmonize and streamline multiple rules. Simply, the goals of this effort

3. Economic Considerations

The price of electricity, like prices of all other inputs, affects the viability of business and industry. The impact, however, is much greater for energy intensive industries because electricity is often the largest single component of operating costs. For example, electricity typically represents 60% - 75% of the direct operating cost of air separation and caustic chlorine operations, of which several such industries are located in Alabama. For this reason, the price elasticity of demand for electricity is greater in the industrial sector. Accordingly, an increase in price of electricity resulting from the proposed carbon pollution rule will significantly diminish U.S. industrial production and will effect a disproportionate negative impact on the economy.

The APSC, as well as other state economic development agencies and electric suppliers, has devoted significant time and effort to build and maintain a strong manufacturing presence in Alabama. One of the key factors for the State's success has been its ability to provide industry with competitively priced electricity. With this in mind, the APSC strongly encourages the EPA to seriously consider the impact that its proposed carbon rule will have on industry and businesses as they are faced with the decision to locate and/or remain in Alabama and the U.S.

Importantly, the manufacturing industry has proven to be extremely valuable in that it contributes significantly to the Alabama economy. In 2010, the state's manufacturing sector provided approximately 236,000 direct jobs in Alabama and created many more indirect jobs and business. Indeed, the manufacturing industry produced more than $13 billion in exports to the world economy, that is, nearly 85% of all exports in Alabama.[11] To maintain and expand these types of economic benefits, the APSC urges the EPA to adopt policies and regulations that will facilitate competitively priced electricity, which in turn will support the U.S. and Alabama manufacturing industries.

An additional economic concern of the APSC is that the EPA's proposal could cause a shift away from Alabama (*i.e.*, Appalachian) coal, resulting in a decrease of Alabama coal production. The coal mining industry is important to Alabama's economy and directly employs approximately 4,236 workers.[12] In addition, the coal industry supports many other businesses such as railway transportation companies.[13]

Like the nation as a whole, the state of Alabama has endured economic hardship during the recession and additional job losses from the coal industry will further exacerbate the problem. In short, the negative consequences of the proposed rule on Alabama coal producers will do nothing to

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should be to "simplify requirements on the public and private sectors; to ensure against unjustified, redundant, or excessive requirements; and ultimately to increase the net benefits of regulations."

Administrator Sunstein also added a few areas where agencies should try to improve, including early consultation and close engagement with affected stakeholders, harmonizing regulatory requirements, reducing administrative costs, avoiding unnecessary or inconsistent requirements, specific consideration of the cumulative effects of regulations on small businesses and startups, and careful consideration of the analysis of costs and benefits. (SNL Energy, *EPA Pushing for Cumulative Impact Analysis of West Coast Terminal Projects*. Dan Lowery. April 17, 2012. P.1.)

[11] Semoon Chang, PhD, "The Importance of the Manufacturing Industry to the Alabama Economy and the Role of Electricity," consulting report, November 2011.

[12] http://www.alcoal.com/coal_industry.html

[13] As an example, CSX Corp. recently furloughed about 280 employees and put about 100 locomotives into storage. Chief Executive Michael Ward characterized this action as a "surgical" response to a big downturn in demand for coal from electric utilities.

alleviate these poor economic conditions, but will only make matters worse. Before finalizing any Carbon Pollution Standard, the APSC strongly encourages the EPA to perform a job impact analysis, particularly as to the effect the proposed rule could have on related industry, to assist in weighing the costs and benefits of the proposed regulation.

4. CCS Technology

To meet the EPA's proposed carbon pollution standard, companies building new coal-fired power plants would have to install some form of carbon capture and storage (CCS) technology. However, such CCS technology is largely regarded as neither economically viable nor commercially available at this time. Indeed, EPA Administrator Lisa Jackson acknowledged in November 2011 that "It can be years, maybe a decade or more, until we have the technology [CCS] available at commercial scale."[14] Forcing a transition to commercially unproven technologies could send thousands of U.S. jobs overseas and raise electricity rates on families and seniors at a time when the nation can least afford it.

CCS technology is, however, currently being researched and developed by several industry participants. One major project is taking place at Alabama Power's Plant Barry, a coal-fired power plant located near Mobile, Alabama. This demonstration project is currently capturing CO_2, and once the Alabama Department of Environmental Management issues an injection permit, the CO_2 will be injected into a saline formation between the 2,300 m (7,000 ft) and 3,050 m (10,000 ft) levels of the Citronelle oil field (which is owned and operated by Denbury Resources). Injection is expected to take place at a rate of 90,000 to 135,000 tonnes per year (equivalent to approximately 25 MWe of coal power production) and continue for four years.[15]

Carbon capture technologies in their current state would add up to 40 – 50 percent to the cost of electricity from a coal-fired plant. As research and development continues along the path to commercialization for capture technologies[16], improvements and efficiencies are projected to decrease the cost of deploying CCS technology. The time and experience needed to realize these cost reductions, however, are unknown.

Eventually, research and development projects such as this could lead to a cost-effective means to reduce and/or capture carbon emissions. Even if a viable technology emerges, it may take several decades for the full scale projects and supporting infrastructure to be constructed. In the meantime, the APSC urges the EPA to support the ongoing research and development efforts in carbon capture while providing a regulatory environment that preserves coal as a fuel source for electric power generation.

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[14] http://www.reuters.com/article/2011/11/17/usa-epa-carbon-idUSN1E7AG0WU2011.11.17.

[15] Global CCS Institute. *Strategic Analysis of the Global Status of Carbon Capture and Storage Report 4: Existing Carbon Capture and Storage Research and Development Networks around the World.* P87.
http://cdn.globalccsinstitute.com/sites/default/files/publications/5751/report-4-existing-carbon-capture-and-storage-research-and-development-networks-around-world.pdf.

[16] Once captured, carbon storage presents its own unique technical and economic issues. This aspect of CCS must be considered separately as it depends not only on the viability of technical applications but on regulatory developments – such as property rights and environmental permitting – and also local geological conditions.

5. Conclusion

In closing, the APSC strongly urges the EPA to re-evaluate its proposal to ensure a fair balance between environmental protection and affordable electricity. Affordable energy, as we all know, whether in the form of oil, gas or electricity, is a vital necessity for every residence and business alike and is the cornerstone to a vibrant U.S. economy. Maintaining a balanced mix of generation resources, including coal, will support affordable electricity over the long term.

Second, we urge the EPA to conduct a comprehensive analysis, with industry input, in order to fully consider the cumulative cost impacts resulting from the agency's numerous rules and regulations recently promulgated, or in progress. We urge the EPA to use any and all available flexibilities to temper these adverse impacts, and assure that good and quantifiable benefits are derived from the costs that will be ultimately incurred by utility customers.

If you have any questions or need additional information, please contact the undersigned at 334-242-9579 or john.free@psc.alabama.gov.

Sincerely,

/s/John D. Free

John D. Free
Electricity Policy Division
Alabama Public Service Commission