



November 5, 2014

VIA ELECTRONIC MAIL

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W., Room 1101A
Washington, DC 20460

Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy,

I appreciate the opportunity to provide input on the Environmental Protection Agency's (EPA) Notice of Proposed Rulemaking for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (EGUs) pursuant to Section 111(d) of the Clean Air Act (the proposed rule).

The American Nuclear Society (ANS) is a professional organization of engineers and scientists devoted to the peaceful applications of nuclear science and technology. Its more than 11,000 members come from diverse technical backgrounds covering the full range of engineering disciplines as well as the physical and biological sciences within the nuclear field. They are advancing the application of nuclear technologies to improve the lives of the world community through national and international enterprise within government, academia, research laboratories and private industry.

ANS recognizes that the earth's climate over the past 50 years has changed and that human activities, notably the production of greenhouse gases, have contributed to this phenomenon. While the science of climate change is still maturing, the risks presented by rising temperatures across the globe are sufficiently large to justify enactment of policies at the national and international levels to reduce carbon emissions.

Nuclear energy delivers large amounts of reliable, economically competitive electricity with no carbon emissions during reactor operations, and has among the lowest lifecycle carbon emissions of any energy source. Nuclear energy is the only energy technology with a proven capability of delivering large amounts of clean base-load electricity essential for the sustainability of modern industrial societies.

The American Nuclear Society supports federal government action to lower greenhouse gas emissions. ANS considers it preferable to address this issue through comprehensive legislation

that would be performance-based, technology neutral and would not mandate a particular mix of energy sources or arbitrarily favor one source over another. We recognize, however, that such legislation is not in the offing and that the EPA has set forth the proposed regulations to accomplish the goal of lowering greenhouse gas emissions in its absence.

ANS is encouraged by the proposed rule, however we believe it contains two major flaws that, unless corrected, would render the rule at best ineffective and at worst counterproductive to the goal of reducing power plant carbon emissions. Likewise, we have two recommendations that, if adopted, would rectify some of the rule's shortcomings and provide an important incentive for preservation of the existing fleet and the deployment of new nuclear generating capacity.

1. Treat existing nuclear plants equally with other non-emitting energy sources

Under the proposed rule, the EPA seeks to set state-specific carbon emission standards using a Best System of Emission Reduction (BSER) calculation. The BSER formula provides all states with nuclear energy facilities credit equal to 5.8% of their 2012 capacity toward achieving their carbon reduction goal. This percentage was derived from an Energy Information Administration (EIA) estimate that six plants, comprising 5.8% of the U.S. generation capacity, are "at-risk" of closure before 2030. Unfortunately, the at-risk plants identified by the EIA are unique cases local to a few states. Other DOE scenarios envision retirement rates of as high as 33% by 2030.

In order to understand the insufficiency of the proposed credit for at-risk nuclear, consider the following scenario: One of the six "at-risk" plants closes in a particular state. Ten percent of the resulting loss in output is replaced by wind and solar generation; the remaining 90% is replaced by natural gas plants. Under the proposed rule, the state could claim a "reduction" in carbon emissions, even though its actual output of CO₂ would increase substantially. Indeed, members of the University of Tennessee ANS Student Section analyzed a hypothetical scenario (submitted to this docket under separate cover) in which all U.S. nuclear plants were closed and replaced with combined cycle natural gas generation. They found that at least 15 states could claim a fictitious "reduction" in carbon emissions under the BSER formula.

In contrast, existing wind and solar EGUs are provided a full 100% credit in the BSER baseline calculation under the proposed regulation. As such, any retirement of these units before 2030 would require a "megawatt-for-megawatt" replacement with another non-emitting technology.

Clearly, the 5.8% at-risk nuclear credit, while perhaps well-intentioned, would defeat the underlying purpose of the proposed regulation, promote greater use of fossil fuels, and encourage the premature shutdown of the current US nuclear fleet.

ANS recommendation: amend the BSER baseline rate determination formula to include 100 percent of each state's existing nuclear generation.

2. Acknowledge and reward states with new nuclear plants under construction

Currently, there are five new nuclear plants under construction in the U.S. – Watts Bar 2 in Tennessee, Vogtle 3-4 in Georgia, and Summer 2-3 in South Carolina. The states in question have each made a deliberate policy decision to support the construction of new nuclear generating capacity in order to meet its expected electricity demand and reduce its carbon emission in expectation of future binding federal regulations.

Under the proposed rule, the EPA includes the carbon reduction benefits of these projects in its BSER determination as though they were in an operational status today. This is in stark contrast to its treatment of non-emitting EGUs currently under construction using other advanced technologies such as carbon capture and storage (CCS), which are not included in the baseline determination and can be applied in full to the host state's compliance plan.

Whether intended or not, the EPA's treatment of under construction nuclear plants is punitive in nature, penalizing those "early adopter" states that have assumed significant financial risks in order to make substantial reductions in carbon emissions through the use of nuclear energy technology. As such, we strongly encourage the EPA to move under construction nuclear plants out of the BSER baseline and instead allow the affected states to count the emission reductions as part of their compliance strategies.

ANS recommendation: remove new U.S. nuclear plants under construction from the BSER formula and allow states to count the avoided emissions toward their compliance plans once they are operational.

In closing, we hope you will give our recommendations serious consideration and recognize that nuclear energy deserves equal treatment with other non-emitting energy sources under the proposed rule. If you need any additional information, please feel free to contact me at president@ans.org or call (202) 973-8050.

Sincerely,

A handwritten signature in cursive script that reads "Michael Brady Raap".

Michael Brady Raap
President