

NuclearTownhall

EPA's Proposed Clean Power Plan Needs to Strengthen the Role of Nuclear Energy Emission Free Generation

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Last week, EPA held public meetings around the country on its recently proposed Clean Power Plan (CPP) that seeks to reduce carbon dioxide emissions from fossil plants by 30 percent by 2030 relative to 2005 levels. While the EPA proposed Clean Power Plan recognizes nuclear energy's potential contribution in providing zero-emission generation, the EPA Clean Power Plan does not do enough to incorporate a strong role for nuclear energy in achieving future CO2 emission reductions.

The EPA's Clean Power Plan sets individual state specific emission reduction rate targets that states must meet beginning in 2020 based a formulaic approach known as "Best System of Emission Reduction" that incorporates four building blocks. These building blocks include: 1.) Improving coal plant heat rates; 2.) Switching generation from coal plants to more efficient natural gas plants; 3.) Increasing generation from zero emission sources, such as renewables as well as a limited amount of nuclear generation; and 4.) Increasing energy efficiency measures.

The EPA Clean Power Plan Building Block #3 includes a provision for what EPA calls nuclear plant capacity "at-risk" which is defined as 6 percent of installed nuclear capacity as of 2012, or approximately 5,800 MWe. EPA states that this "at-risk" capacity represents the amount of installed nuclear capacity that may be prematurely shutdown based on EIA projections that is over and above the recently announced and planned nuclear plant shutdowns. By adding this element into the EPA BSER, EPA has established a modest incentive for states to take measures to retain installed and operating nuclear capacity, since if a state were to allow some portion of its "at-risk" nuclear capacity to be shut down during the compliance period, the state would be obliged under the EPA BSER to undertake compensating measures to achieve the EPA state specified risk reduction rate goal. In addition, EPA also included in the BSER Building Block #3, new nuclear capacity presently under construction at Vogtle 3&4, at 2,204 MWe in Georgia, Summer 2&3, at 2,204 MWe in South Carolina and Watts Bar 2, at 1,180 MWe in Tennessee.

Under the EPA Build Block #3, nuclear energy contributes about 90 million MWh, and this emission free generation contribution remains fixed throughout the compliance period unlike the contributions from renewables and energy efficiency will increase every year throughout the compliance period. Overall, by 2030, renewables are credited with 525 million MWh of zero carbon generation and energy efficiency about 425 million MWh equivalent carbon free

generation, as based on EPA's Technical Support Goal Computation Document. Along with the nuclear energy contribution, these zero carbon sources taken together provide over 1 billion MWh, however, nuclear energy contribution amounts to no more than 8.6 percent.

Rather than an "All of the Above" energy strategy, the EPA Clean Power Plan would anoint some clear winners. Under the approach as proposed, natural gas would become the backbone of the Clean Power Plan contributing by EPA's own estimates an overall BSER CO₂ emission reduction of 31 % — by far the largest of the four building blocks. A recent preliminary assessment of the EPA proposed plan by the Center for Strategic and International Studies (CSIS) reported up to a 14 percent potential increase in the consumption of natural gas would occur during the compliance period under the EPA proposed rule than what otherwise would have been the case.

Such a large increase and reliance on any one source of fuel raises questions about grid reliability as a recently released study by IHS Energy, titled "The Value of US Power Supply Diversity". This study which examined a reduced diversity case scenario where natural gas contributed up to 61.7% of the generation mix found that such a lack of diversity in the electric generation mix could increase wholesale power prices by about 75% and retail power prices by about 25%.

Moreover, the EPA's proposal for reliance on renewables and energy efficiency functionally operates as a de facto national renewable and energy efficiency portfolio standard, albeit with a small carve-out for "at-risk" nuclear generation capacity.

Fortunately, under the EPA Clean Power Plan, states must submit a state implementation plan that specifies the policies, programs and actions that the state is committed to undertake during the compliance period in order for the state to achieve the EPA state-specific emission reduction rate by 2030.

Unlike the detailed and specific EPA BSER Building Block formula, EPA does not provide an exact formula that each state will be required to use when demonstrating that the state has met its required emission reduction rate goal. Further, EPA identifies numerous options that states may take advantage of in order to achieve its emission reduction rate goal.

As part of these recognized options, EPA identifies the continued operation of existing "at-risk" installed nuclear capacity and under construction nuclear capacity. In addition, the construction of new nuclear generating units as well as the uprating of existing nuclear units is identified as approvable emission reduction measures.

The EPA Clean Power Plan should include nuclear energy as an important part of the overall clean energy portfolio that is to be relied on to achieve emission reduction rate goals. The nation needs new nuclear capacity as part of any plan to provide reliable, efficient and affordable emission free electricity.

Mr. Davis is a former President of the American Nuclear Energy Council and senior fellow for the U.S. Nuclear Infrastructure Council (www.usnic.org). The USNIC is the leading business consortium for new nuclear energy and engagement of the U.S. nuclear supply chain globally.

While Mr. Davis' views represent the consensus views of the Council, they do not necessary represent the opinions of individual USNIC member companies and organizations.