



MEMO TO: Arkansas Dept. of Environmental Quality and Arkansas Public Service Commission

FROM: Arkansas Advanced Energy Association

DATE: July 21, 2014

RE: Preliminary Comments on EPA Clean Power Plan

Introduction

The Arkansas Advanced Energy Association (AAEA), representing over 80 Arkansas companies and institutions, supports the proposed 111(d) rule. AAEA appreciates the rule's flexibility and its approach for achieving carbon emission reductions on a state-by-state basis. The rule's proposed methodology for carbon reduction, a Best System for Emission Reduction or BSER, offers a set of cost-effective, advanced energy technologies for reducing carbon emissions through heat rate improvement, energy conservation, and greater use of natural gas and renewable energy,

AAEA believes the proposed carbon emissions reduction target for Arkansas of 41% from 2020 to 2029 and a final target of 44% by 2030 from 2012 carbon emission rates is a direct reflection of the business strategies pursued by the state's electric utilities for the last 10 years. The charts and diagrams presented at the June 25th stakeholders meeting showed that while other southern states were reducing their carbon emissions during the same period, Arkansas's electric generation and carbon emissions increased 27% and 39% respectively from 2005 to 2013 in spite of retail electric energy sales rising only 1%. These data confirm that Arkansas's electric generation units (EGUs) were largely built to

serve an out-of-state market with cheap, coal-powered electricity. Consequently, there has been little interest by the state's electric utilities to install renewable energy or encourage Combined Heat and Power (CHP) systems, or deploy more natural gas. It also helps to explain why the electric utilities have fought distributed generation and net metering as recently as 2012.

Specific Issues To Be Considered By The State

In the state's comments to EPA due October 16th, AAEA encourages consideration of the following issues. 1) The state should support the carbon emissions target for the state or show convincingly why the target is inaccurate or was unfairly set in comparison to other state targets. AAEA believes Option 1, carbon reductions over a ten-year horizon is preferable over Option 2 -- a lower carbon target achieved in half the time. AAEA reasons that deploying BSER in Option 1 will give the state enough time to deploy cost-effective technologies and programs necessary to reduce the state's carbon emissions.

2) Each state's carbon reduction target reflects an emissions level that EPA has determined to be "reasonable" based upon application of a "Best System of Emission Reduction" (BSER) for coal-powered plants. In this case, the BSER is the combination of four emission reduction strategies labeled in the rule as "building blocks (BB)." Applying the BSER to Arkansas, BB1 would necessitate a heat rate improvement of 1 to 11%; BB2 requires combined cycle natural gas plants (CCGT) to operate up to 70% capacity; in BB3, renewable energy generation would increase to 8.6%; and for BB4, energy efficiency (EE) will have to achieve 12% in energy savings.

In consideration of the building blocks and their potential costs, it appears to AAEA that the BSER will work for Arkansas with the initial and highest carbon emission reductions coming from the increase deployment of CCGT -- an emission reduction up to 30% -- or 68% of the carbon target for the state. AAEA believes that additional investments at existing outdated coal and oil EGUs are

not cost-effective for reducing carbon emissions and would detrimentally impact ratepayers. AAEA realizes that the above strategy could lead to the retirement of one or more coal-fired plants. An increased deployment of natural gas over the next five years would place Arkansas in a strong position to reach its initial target of 41% carbon reductions by 2020. The other building blocks, 3 and 4, would make up the difference.

3) AAEA believes that if Arkansas deployed its full potential to reduce carbon emissions, it would achieve a higher carbon reduction level and create unprecedented economic development and job growth in the state's energy sector. The key advanced energy technologies that would lead the way would be cost-effective investments in renewable energy (up to 15% of energy generated); EE with annual savings of 1.5% or more; and full deployment of CHP, a technology that uses waste heat to generate electricity at sites like universities, hospitals, and industrial sites. During August, the Arkansas Advanced Energy Foundation will release its new economic impact analysis of the utility-operated EE programs that will document actual employment numbers as well as the economic benefits of EE. This study has already found that more than 700 companies are now offering energy saving services through the utility-operated EE programs -- in essence, an industry that has largely been built in the past seven years. We plan to discuss the findings of this study during the upcoming stakeholder meetings. CHP systems would help with carbon reduction if increased from the current 497 megawatts (MW) of capacity to 1230 MW, the projected industrial CHP capacity in the state. Full-scale deployment of CHP would provide enough electricity to power nearly 600,000 homes and lead to more than \$2 billion in investments. Companies such as Clean Line Energy are preparing to deliver thousands of MWs of wind energy from the Great Plains across the Midwest to eastern states. Arkansas could be a significant recipient of this new energy source if a planned, 500 MW converter station is built in Central Arkansas.

4) Renewable and efficiency programs/projects and other lower carbon emitting technology installed between 2014- 2020 should be credited as 111(d) compliance. AAEA is not sure about measures installed prior to 2014 that reduced carbon emissions but we are open to considering those measures as part of the state's compliance plan. AAEA would like to explore this option in the stakeholder meetings and with EPA.

5) AAEA recommends that Integrated Resource Planning (IRP) currently used by the electric utilities be incorporated into Arkansas's carbon reduction plan. IRPs provide electric utilities, regulators, and the public a forum through which cost effective strategies and technology can be considered for reducing carbon emissions. Currently, IRPs are reviewed every three years with a planning horizon of 10 years. AAEA believes the stakeholder process should examine thoroughly the role that IRPs have for reaching the state carbon target and compliance. AAEA requests that the use of IRPs as part of a state's compliance plan be raised with EPA.

6) AAEA believes a multi-state approach to carbon reductions may be desirable to ensure that the state has opportunity to take advantage of low-carbon technologies generated outside of the state but used in the state. Since our electric utilities are members of either the SPP or MISO, multi-state planning could have significant advantages for Arkansas.

7) AAEA believes that Arkansas's regulators should make a case for using current Renewable Energy Credit (REC) tracking systems for compliance under 111(d). Tools and processes for such tracking systems, such as the North American Renewables Registry, already exist and are in widespread use for supporting development and implementation of state 111(d) plans and ensuring that each REC is counted only once.

8) AAEA is interested in a comparison of rate-based and mass-based carbon

targets for the state and how the state's regulators and electric utilities would implement carbon reductions under each approach. We encourage the Arkansas Department of Environmental Quality (ADEQ) and EPA to calculate a mass-based target for the state for discussion purposes. In fact, EPA should complete conversions for all states, request comment from states on the modeling, and publish a mass-based conversion system that states can use if they adopt a mass-based system.

9) The 2020-2029 averaging period creates compliance uncertainty because the electric utilities and the regulatory officials will not know the amount of reductions needed each year to stay on target – thus the state runs the risk of being out of compliance at the end of 2029. Arkansas should establish an annual review for compliance in its plan. Further, it would be helpful if EPA developed an accounting framework that applies in each state for making projections and measuring progress toward meeting the targets.

10) As the state of Arkansas and its stakeholder group work together to develop a state compliance plan, it would be very helpful if EPA had in place a model plan for the state to follow should it choose to do so. The benefit of such a plan would be that the state would most likely meet federal plan requirements. Arkansas should consider this request in its 111(d) comments.

11) Given the probability of generating more electricity with CCGTs rather than coal or oil -- in essence fuel switching – Arkansas should authorize fuel switching in the utility-operated EE programs for the installation of residential and commercial appliances and work out a mechanism by which both natural gas and electric utilities can receive credit for energy savings and carbon reduction. Fuel switching may not be an issue to be raised with EPA but it would be an important compliance tool for the state.

Conclusion

AAEA and the World Resources Institute (WRI), an international organization committed to sustainability, recently worked together to develop a cost-effective analysis of how the state's existing infrastructure and energy policies could reduce carbon emissions by 2020 at 2011 levels. That analysis is attached with this document. It shows that existing coal plants could improve burn efficiencies by 2.5% and cut carbon emissions by 1%. CHP if increased by a third over current levels could cut carbon emissions by 2%. Arkansas's CCGT plants could cut carbon emissions by 30 percent if they operated at 75% capacity rather than the current 35%. By meeting 2015 EE targets of 0.9% (of 2013 sales) for electric utilities each year going forward, the state could reduce carbon emissions by 7%. At 1.5% savings after 2018, the state could achieve carbon emissions of 11%. And should the state increase its use of renewable energy from the current 6% to 15%, another 9% reduction in carbon emissions could be achieved.

AAEA also submitted a letter dated May 28th to Governor Beebe and state agency officials and published a guest editorial in the July/August edition of Talk Business that provides more insight and perspective of AAEA's position that Arkansas can reasonably and in a cost-effective manner meet the carbon emissions reduction target as proposed by EPA with the added benefit of in state economic development and even reasonable if not lower energy bills – a win for all sectors and citizens. Each of these documents is also attached.

Thank you.

Note: Please consider this document and attachments as preliminary thoughts and perspective from AAEA. By the October 16th deadline for comments to EPA, AAEA will have developed a much more comprehensive position on the proposed 111(d) rule as well as economic data that will be shared with stakeholders.