BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of an investigation of the Cost to	)	
Missouri's Electric Utilities Resulting from	)	File No. EW-2012-0065
Compliance with Federal Environmental Regulations	)	

RESPONSE OF MISSOURI'S RURAL ELECTRIC COOPERATIVES

COMES NOW, the Association of Missouri Electric Cooperatives, Inc. ("AMEC"), by and through its undersigned counsel, and provides the following response to the Commission's invitation to respond to certain questions set forth in the Commission's Order of July 30, 2014 issued in the above-referenced proceeding.

AMEC appreciates this unique opportunity to assist the Commission in analyzing the potential impacts on the state of Missouri of the Environmental Protection Agency's ("EPA's") proposed rule, otherwise known as the "Clean Power Plan".[1]

I. MISSOURI'S RURAL ELECTRIC COOPERATIVES

AMEC is the statewide organization that represents Missouri's forty-seven nonprofit, member-owned rural electric cooperatives.[2]

Missouri's rural electric cooperatives are fundamentally different than the investor-owned electric utilities regulated by the Commission. Missouri's rural electric cooperative "three-tier" system generates, transmits, and distributes electric power to approximately 875,000 member-owners across three states. Each rural electric cooperative is operated on a nonprofit basis pursuant

[1] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, Federal Register, Vol. 79, No. 117, 34830.

[2] Additional information on AMEC and its member systems is available on its web site, www.amec.org. Citizens Electric Corporation is unique. It is a member of AMEC and operates on a nonprofit cooperative business plan but it is not a rural electric cooperative under Chapter 394 RSMo and obtains its wholesale power from outside the Missouri cooperative system.

to Chapter 394 RSMo, is wholly-owned by the members it serves, and operates under the authority and direction of a board of directors elected by the membership. Missouri's rural electric cooperatives are financed through loans from the private sector and from the Rural Utilities Service--United States Department of Agriculture. Before the first rural electric cooperative was organized in 1937, only one out of 20 rural Missouri families had electricity. Today, over 99 percent have electric power.

Associated Electric Cooperative, Inc. ("AECI") generates and provides wholesale electric power to its six owner regional generation and transmission ("G&T") cooperatives, that in turn, supply wholesale power to 39 distribution cooperatives in Missouri, three distribution cooperatives in southeast Iowa, and nine distribution cooperatives in northeast Oklahoma. The six G&T cooperatives are owned by the distribution cooperatives in the respective G&T service areas. AECI and its six G&Ts own and operate an integrated, high voltage transmission system consisting of approximately 9.831 miles of transmission lines.[3] While AECI currently has a total of twenty-one interconnection agreements with its neighboring utilities, AECI's member-elected board of directors has not found it to be in its member's best interests to join a Regional Transmission Organization ("RTO") at this time.

II. RURAL ELECTRIC COOPERATIVE MEMBER DEMOGRAPHICS

Missouri's electric cooperative three-tiered system supplies electricity to approximately 875,000 metered member accounts served by AECI, which translates into well over 1 million electric consumers. Unlike most of the customers served by the state's investor-owned utilities,

[3] This consists of 6,808 miles of 69 kV, 239 miles of 138 kV, 1,984 miles of 161 kV, 754 miles of 345 kV, and 46 miles of 500 kV.

electric cooperative members live predominantly in the rural areas of the state. A survey of our members conducted in 2013 found that:

- Average income is between $25,000 and $50,000 a year.
- 40 percent reports a gross income of less than $50,000 a year; 16 percent of these make less than 5,000 annually.
- An estimated 80 percent of members are 45 or older.
- Nearly half lives in two-person households, and one-third has three or more people. Those larger households use two-thirds more energy than single-person households and 30 percent more than two-person households.
- Most members own their homes, with most of these homes at least 25 years old.
- 41 percent have been members for more than 25 years.
- 47 percent are employed, 37 percent are retired or on a pension, and 4 percent are unemployed.
- 35 percent of members are 65 and older, and most of those are retired.
- Seniors are the most satisfied members, followed by middle-age and then younger members.
- About half of seniors make less than $50,000 a year; one-third earn less than $25,000 a year.

Because Missouri's electric cooperatives are member-governed and member-controlled, our members' focus on *electricity prices* drives all our cooperatives' focus on *costs*. Unlike the state's investor-owned utilities whose customer rates are set by the Commission, any and all costs incurred by the cooperatives' three tiered system must be recovered from our members. As consistently directed by its members, the goal of Missouri's electric cooperative three-tiered system is to deliver reliable electricity to its members at the lowest cost possible.

In order to meet that goal, AECI over the years has acquired and dispatches a diverse mix of generation resources. Not surprisingly, AECI has found coal-fired generation to be the most reliable and economical source of base-load power for its members.

III. AECI's GENERATION MIX AND RESOURCES

AECI's generation mix is as follows:

Fuel	**2012**	**2103**
Coal	75%	79%
Natural Gas	14%	4%
Hydro	5%	6%
Wind	5%	10%
Purchased Power	1%	1%

AECI's existing generation resources are as follows:

Resources (location map appended)	**MW Capacity**
Coal-based power plants:	
New Madrid Power Plant[4]	1,200
Thomas Hill Energy Center	1,153
Grand River Dam Authority Unit 2[5]	198
Combined-cycle, gas-based power plants:	
Chouteau Power Plant	1,062
Dell Power Plant (dual fuel)	580
St. Francis Power Plant	501

[4] The City of New Madrid owns the 600 MW Unit 1, which is operated by AECI under the terms of an agreement with the City.

[5] AECI dispatches KAMO Power's portion of this plant.

Peaking oil- and gas-based power plants:		
Essex Power Plant	107	
Holden Power Plant (dual fuel)	321	
Nodaway Power Plant	182	
Unionville Power Plant (oil)	45	
Additional contracted power sources:		
Hydroelectric peaking power[6]		478
Capacity sold to other utilities	(40)	
Wind power[7]	750	
TOTAL	5937	

IV. GENERAL COMMENTS

AECI will be submitting detailed comments to the EPA and will forward a copy of those comments to the Commission as soon as they are available. Many of the questions asked of the investor-owned utilities in the Commission's July 30th, 2014 *Order* either do not apply to AECI or cannot be answered, easily or otherwise, within the specific context of the Missouri electric cooperative system. The EPA's proposed rule contains many ambiguities and "gray areas" which must be addressed before Missouri's electric cooperatives can reasonably analyze the impacts, both operationally and in cost to members. However, in order that the Commission might have as much information available to it as possible from the perspective of the state's rural electric cooperatives, below is a summary of AECI's comments with respect to the EPA's proposed four building blocks.

[6] Hydro-electric power is purchased through the Southwestern Power Administration.

[7] AECI has signed long-term power purchase agreements to buy 600 MW of wind power from four wind farms in Missouri and one in Kansas. AECI buys all the power from Missouri's four first utility-scale wind farms. AECI has contracted for 300 MW from BP Wind Energy's Flat Ridge 2 farm in south-central Kansas, completed in 2012. With the addition of 150 MW from Wind Capital Group's Osage County wind farm currently under development in northeast Oklahoma, this will bring AECI's total wind resource capacity to 750 MW.

1. Building Block 1, Power Plant Efficiency.

The 6% power plant efficiency improvement projected in the EPA model is not achievable. A more realistic plant efficiency goal needs to be established with credit given to utilities that have already performed projects identified by the EPA. The *Sargent & Lundy* study referenced to justify the 6% plant efficiency improvement was misinterpreted by the EPA. Heat rate efficiency is often confused with boiler efficiency and the EPA is using incorrect methodology to estimate heat rate improvements. Plants that have already performed efficiency improvements included in the EPA's justification cannot achieve an additional 6% improvement. Plant energy efficiency projects completed prior to 2012 should not be used to lower state emission rate targets. AECI supports a Best System of Emission Reductions ("BSER") approach for reducing emissions by improving the heat rate of generating units but believes that the 6% improvement required in the proposed rule is not achievable for most units and on a statewide basis. AECI supports the EPA's conclusion that carbon capture and storage ("CCS") is not commercially available and therefore it should not be considered to establish the BSER.

The EPA should allow for each state to conduct a unit-by-unit evaluation of existing heat rate improvement projects and establish emission rate targets as required by EPA. New Source Review (NSR) rules discourage and prevent utilities from performing plant efficiency projects. The EPA should provide a clear permitting path for coal plants to improve heat rates. The renewable energy requirements of the rule will decrease the efficiency of the plants as fossil plants will need to be de-rated to accommodate variable renewable generation. The EPA should take this into consideration when establishing heat rate and emission rate goals required by the rule. The EPA did not take into consideration that heat rate improvement projects are not permanent and plant performance deteriorates immediately following the completion of the improvement project. The

EPA should take that into consideration when establishing their fossil plant efficiency requirements and state emission rates.

Finally, compliance with EPA MATS rule requires additional plant controls which increase plant heat rates. The EPA should take this into consideration when establishing state emission targets.

2. Building Block 2, Natural Gas Plant Dispatch

As indicated above, unlike other Missouri electric suppliers AECI already has a considerable amount of combined-cycle natural gas ("CCNG") capacity as part of its existing generation fleet. Today, natural gas plants are dispatched only when it is economical to do so and if needed to meet load requirements while ensuring system reliability. Increasing the use of the existing natural gas plants to reduce use of coal-fired generation raises many practical and operational issues that will need to be addressed; it also necessarily will mean an increase in cost.

The EPA established emission rates using gross CO^2 emissions from 2012 and net generation from the same year. AECI believes this to be an inconsistent methodology and that gross emission and generation should be utilized to establish emission rates. The EPA has established state emission rates for existing generating plants which are below achievable rates from new CCNG units. The proposed 111(d) rule should not be more stringent than the proposed 111(b) rule for new generating units.

The 2012 data year selected for establishing state emission rates is not representative of normal plant operations. The 2012 model year does not take into account variations in natural gas prices and that natural gas prices are forecasted to increase. The EPA should select an earlier year, or multiple years that reflect operational variability, to establish emission targets. The year

2012 had unusually low natural gas prices and higher than expected capacity factors for CCNG. The capacity factors estimated by the EPA are not realistic due to supply interruptions and the need to establish firm transportation contracts. The model years should use data years around 2005 to account for early emissions reductions.

The proposed rule is unclear on the ability to count existing out-of-state units--as well as newly constructed CCNG units--into a specific state compliance plan. The EPA should clarify how new CCNG will be accounted for to meet a rate-based and mass-based state program. The EPA did not take into consideration constraints to the natural gas supplies, and constraints to the transmission and distribution system, when requiring 70% capacity of the CCNG fleet. New infrastructure and long-term firm contracts will be needed to meet the 70% capacity requirement. The EPA did not take into consideration the time required to finance, permit, and construct new CCNG plants and should allow additional time to meet compliance. The EPA did not consider the environmental impacts to historical sites, endangered species, and water resources when requiring the construction of additional CCNG *with necessary electric transmission infrastructure* to meet the CO^2 reductions. The EPA should take other environmental considerations into consideration when establishing CCNG rates and in the economic analysis for the rule. The EPA did not but should take into consideration the costs and project delays for right-of-way obtainment and for the construction of natural gas supply pipelines to accommodate the requirements of the rule. The EPA did not take into consideration the changes to the National Environmental Policy Act (NEPA) and delays required under that federal law in establishing timelines for implementation of the rule. The EPA should conduct a state-by-state study to determine the time required to finance, permit, construct and commission new CCNG generating plant to meet building block #2.

3. Building Block 3, Renewable Power

The baseline year penalizes actions taken to voluntarily reduce carbon emissions and intensity prior to 2012. Renewable energy projects developed prior to 2012 should not be used to lower the state emission rate target. The EPA overestimated the capacity factor of renewable generation in their model and in the establishment of state emission rates. The EPA did not take into consideration the constraints to electric transmission and distribution systems when requiring the construction of new renewable energy sources. The transmission system construction timeline does not support the EPA's 2020 rule start date; compliance with building block 3 should be delayed until 2025. The EPA did not take into consideration the environmental impact to migratory birds, bats, and engendered species such as the lesser prairie chicken, when requiring additional renewable energy generation, transmission and distribution systems to be constructed. The EPA did not consider the costs and project delays due to right-of-way obtainment related to expanding renewable energy transmission projects to meet the requirements of the rule. The EPA estimated that renewable energy would only displace coal generation, and by doing so, overestimated the emission reductions in building block #3. The EPA should conduct a state-by-state analysis of displacement of generation by renewable energy and recalculate emission rates for each state. The renewable energy forecast uses the multi-state average of renewable energy production instead of evaluating each state and establishing renewable energy targets.

The EPA modeling of emission rates does not take into consideration hydro generation to meet electricity demand and reliability. AECI supports the use and expansion of existing hydro power generation to demonstrate compliance with state plans. The state flexibility of the plan promoted by the EPA should include the inclusion of existing hydro projects to meet compliance.

The EPA provided options to meet the plan that were not included in the baseline model rate. The EPA should not use as a justification to limit the use of hydro the fact that it was not included in the modeled rate. The use of hydro has allowed for electricity *generation without carbon emissions* and utilities purchasing hydro power from the federal government should not be penalized or limited in meeting this rule by those purchases. The EPA requested comments on special considerations for electric cooperatives. Due to the long standing practice of cooperatives utilizing hydro power to meet the electricity generating needs of rural citizens, the EPA should allow cooperatives to utilize hydro generation in calculating emissions rates to demonstrate compliance with the rule.

The EPA did not take into consideration the changes to the National Environmental Policy Act (NEPA) and delays required under that federal law in establishing timelines for implementation of the rule. The EPA should conduct a state-by-state study to determine the time required to finance, permit, construct, and commission new renewable energy projects--including construction of necessary transmission lines--to meet the rules. The EPA has provided confusing guidance on the ability to use renewable energy and renewable energy credits generated in one state for compliance in another. During EPA outreach meetings and calls staffers have presented material that prohibits renewable energy from being used in other states, allows renewable energy from being used, and allows existing but prohibits new generation from being used in other states. The EPA should clarify this point in the final rule.

The production, transmission, and final use of wind generation is often difficult to track and measure by state. The EPA decided to omit hydropower from their modeling due to the same complexities. The EPA should remove wind generation from their model to establish emission rates based on their lack of granular analysis to the state-specific generation and usage of

renewable wind generation. AECI supports the use of renewable energy tracking systems to transfer renewable energy credits (RECS) from one state to another to calculate compliance. The EPA should clarify and allow for registered RECS in a system that is auditable and prevents double counting to be used for compliance in any state. The EPA has not included in their list of options to reduce CO^2 the greenhouse gas equivalents for agricultural methane capture, no-till farming and sustainable forestry and grazing practices. The EPA should allow for state implementation plans to include CO^2 equivalent reductions to offset power plant CO^2 emissions.

4. Building Block 4, Consumer-Based Energy Efficiency

While not subject to a state mandate, cooperatives have long recognized a value in providing *economical* and *practical* energy efficiency programs specifically designed to meet the unique needs of their predominantly rural membership. Building on the distribution cooperatives' longtime energy efficiency efforts, in 2008 AECI launched its "Take Control and Save Program" with a total system investment of $40.4 million through 2013. That investment--through energy audits, CFL lighting, and rebates for energy efficient appliances, water heaters and heat pumps--has thus far resulted in a projected lifetime kilowatt-hour savings of approximately 1,096,086,235 kWh, enough energy to power about 76,000 homes for one year.

It is unfair for the EPA to ignore in its calculations the energy efficiency gains already made by the cooperatives or to force cooperatives to try to implement *uneconomical* new energy efficiency programs. Beyond this, due to the cooperatives' unique three-tiered system, all cooperative energy efficiency programs necessarily must be voluntary. AECI cannot somehow mandate, and has no legal power to require, the distribution cooperatives or their members to participate in demand side management or other consumer based energy efficiency programs. To the extent it even looked at the *cost to the consumer*, the EPA ignored the very real additional out-

of-pocket direct cost to the consumer for purchasing new appliances and undertaking other efficiency measures in their homes and businesses.

V. COOPERATIVES' POSITION

Missouri's rural electric cooperatives prefer a rate based standard as it allows for future economic growth and will support:

- Multi-state trading programs[8]
- Bringing renewable energy credits ("RECs") from other states into Missouri to meet our emission rate standard
- Bringing hydro-electric power purchased from the federal government into the Missouri state emission rate
- A list of power plant projects to be designated as not increasing emissions and providing for a simplified permitting process
- Getting credit for power plant efficiency projects included in the EPA assumptions that were completed before the 2012 baseline year to count toward the emission rate
- Getting credit for our existing end user energy efficiency programs
- Using combined-cycle natural gas and wind generation from other states to serve loads in Missouri in our emission rate calculation.

Missouri's rural electric cooperatives join with the other sectors of the Missouri electric industry in urging the following industry consensus changes or clarifications to the proposed rule:

1. Notwithstanding any other challenges, the EPA should define and limit carbon emission standards solely based on what is achievable at existing power plants, provided the states are given

[8] Other trading programs such as the Regional Greenhouse Gas Initiative ("RGGI") and international programs have taken longer than two years to develop.

the flexibility to use any emissions reduction or offsetting programs to achieve compliance, including those methods described in the "building blocks", consistent with Section 111(d) of the Clean Air Act.

2. The interim targets should be eliminated and states should have the ability to set reasonable interim *milestones*. Left unchanged, the specific interim targets will levy unnecessary costs on Missouri's electric consumers and will create unnecessary opposition to the rule. This elimination also avoids the very practical challenge of electric providers not knowing the compliance requirements of the rule until as late as sometime in 2018 or 2019. Furthermore, states should be given flexibility to extend compliance dates in order to allow the orderly retirement of coal plants to coincide with the planned construction of lower emitting sources and renewables and allow sufficient time for states to develop plans including the time necessary to work through very complicated and complex multi-state options.

3. Missouri's electric service providers have been investing in cleaner and renewable energy resources to benefit our consumers for years; they have been building or purchasing these resources where it is most cost effective, and in many instances, this has been in neighboring states. This is clearly the case with AECI with respect to both CCNG and wind. In order to comply with the proposed rule, and do so at a much lower cost to Missouri's electric consumers, it is critical that energy resources in other states are allocated to their load in Missouri.

4. Because the goal of the rule is to reduce CO^2 emissions from the U.S. coal fleet, credits should be provided in the rate-based calculation for shutting down coal plants that are not replaced.[9] These units should be treated as a zero-emitting resource (similar to the way in which energy efficiency is being treated under the proposed rule). The cheapest MWh is the one never

[9] The two-unit Chamois power plant, 68 MW, was retired in 2013. AECI currently has no plans to retire any other of its coal-fired units.

generated. Equity—and common sense--requires similar treatment for retired coal plants and energy efficiency.

5. The EPA should make it clear that any modifications made at existing facilities to improve plant efficiency should **not** be subject to New Source Review.

6. The final rule should include a regulatory safety valve based on retail rate increases beyond a specific level and a certification from the NERC that the realignment of resources in identified service areas or RTO's **do not** present a real and present danger of reliability failures.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document was filed in the above captioned case via EFIS with an electronic copy provided via email to the Commission's General Counsel's Office and to the Office of the Public Counsel this 26th day of August, 2014.

/s/ Brent Stewart