1500 SW Arrowhead Road
Topeka, KS 66604-4027

Kansas
Corporation Commission

Phone: 785-271-3100
Fax: 785-271-3354
http://kcc.ks.gov/

Shari Feist Albrecht, Chair
Jay Scott Emler, Commissioner
Pat Apple, Commissioner

Sam Brownback, Governor

October 29, 2014

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Comments in Response to EPA's Proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy:

Please find attached the comments of the staff of the Kansas Corporation Commission (KCC) in response to the Environmental Protection Agency's (EPA) proposed Clean Power Plan. The Commission's technical staff has extensive expertise in the subject matter EPA seeks to regulate in this proposed rule. Therefore, we request EPA carefully consider these comments of the Commission's technical staff, which the Commission has reviewed and authorized to be filed.

The KCC is the state agency in Kansas tasked with ensuring sufficient and efficient electric service provided at just and reasonable rates. The Commission's technical staff has extensive expertise in the areas of accounting, economics, and engineering, with a focus on electric utility ratemaking, reliability, and the energy sector.

The KCC Commissioners have reviewed the staff's comments and we embrace the concerns KCC staff raises in these comments.[1] Of particular concern is the extent of the EPA's proposed regulatory reach into Kansas' mix of energy resources. The KCC-regulated electric utilities in Kansas are vertically integrated investor-owned public utilities subject to traditional rate of return economic regulation under which the KCC carefully balances the interests of the public utility against those of the public the utility serves. In its proposed Clean Power Plan, the EPA has inserted itself into a regulatory field occupied by the states for decades in which the states have proven expertise in public utility ratemaking and in understanding the complexity of the electric grid and

[1] The Commission emphasizes that the attached comments are those of its staff. While the Commission agrees with many of its staff's concerns, the comments should not be interpreted as an establishment of agency policy or binding against the Commission in future proceedings.

electric reliability. The proposed rule will disrupt the carefully balanced, cost-effective delivery of electricity in Kansas and will lead to detrimental economic effects, both within the Kansas economy and within the states with which Kansas does business.

Should the EPA proceed with the proposed Clean Power Plan, this Commission fully expects that Kansas ratepayers will face a future of exorbitantly high electricity costs and unreliable electric service. We believe it is our legal duty and obligation to look out for the energy future of Kansans and the Kansas economy. The proposed rule, as currently drafted, will create a bleak energy future for Kansas. We must, therefore, urge you to withdraw the proposed rule from consideration.

Respectfully,

The Kansas Corporation Commission

Shari Feist Albrecht
Chair

Jay Scott Emler
Commissioner

Pat Apple
Commissioner

COMMENTS

OF THE

STAFF OF THE KANSAS CORPORATION COMMISSION

ON THE PROPOSED CLEAN POWER PLAN

U.S. Environmental Protection Agency

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

October 29, 2014

Table of Contents

I. Executive Summary

The purpose of these comments is to convey the Staff of the Kansas Corporation Commission's (KCC) concerns regarding the Environmental Protection Agency's (EPA) proposed "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" (Clean Power Plan or CPP).

Specifically, the KCC's concerns are:

- The EPA's assertion of jurisdiction over the production and dispatch of electricity;
- The EPA's calculation of Kansas's goal for carbon reduction is seriously flawed and too low;
- The EPA's carbon limit for Kansas does not ensure a reliable or affordable electric system, nor does it recognize investments that have already been made in Kansas;
- The EPA's proposed timelines for compliance are not feasible;
- The EPA's use of a state-wide emissions guideline creates cross-subsidy issues between Kansas ratepayers;
- The EPA's state-wide emissions guideline, in conjunction with the multi-state option, creates cross-subsidy issues between states; and
- The EPA's Clean Power Plan is a federally mandated energy policy.

In order to address the concerns outlined above, the KCC recommends the following:

- The EPA's Clean Power Plan is severely flawed. As the KCC notes throughout these comments, the EPA cannot accurately model the complexities of the modern grid and establish a carbon limit on an individual state basis. Therefore, the EPA should withdraw the Clean Power Plan and develop a "best system of emission reduction" that is less complicated and ensures reliability at a reasonable cost. Should the EPA continue to use the 111(d) framework, EPA should recognize the states' jurisdiction over generation mix and the states' right to determine their own CO_2 emissions goals. This approach would also eliminate the jurisdictional issue regarding authority over generation mix.
- If the EPA issues its final rule on the Clean Power Plan and it is in substantially the same form as currently recommended, then it should incorporate the following:
  - Use the KCC's revised calculations for the EPA's building blocks in determining an appropriate CO_2 emissions level.

- EPA should revise its formula so that existing nuclear generation can count towards compliance.

- The state of Kansas has spent in excess of $3 billion on environmental compliance projects for its coal-fired generation fleet, and these projects were approved by the EPA under state implementation plans. To avoid stranded ratepayer investment, specific coal-fired units that were retrofit in compliance with EPA rules should be excluded from the EPA's calculations in determining a CO_2 emissions goal.

- If the EPA decides to credit a state for only the renewable energy consumed in the state, then the EPA should provide symmetrical treatment for carbon emissions and count only the carbon associated with fossil-fuel generated electricity consumed in a state.

- Prior to the approval of any state compliance plans, a study should be undertaken that evaluates the impact on; (1) the supply and demand of natural gas; (2) natural gas prices; (3) current gas transmission pipelines; and (4) the need and timeline for constructing new gas transmission pipelines. This study should be conducted by the Federal Energy Regulatory Commission with input solicited from states.

- The Southwest Power Pool (SPP) has submitted comments to the EPA. The KCC incorporates SPP's recommendations herein. SPP's recommendations are:

  - A series of technical conferences jointly sponsored by the EPA and the Federal Energy Regulatory Commission (FERC);

  - Completion of a detailed, comprehensive, and independent analysis of the impacts the proposed CPP will have on the reliability of the nation's bulk electric system;

  - Extension of the proposed schedule for compliance in order for the necessary electric and gas infrastructure to be identified and constructed; and

  - Adoption of a "reliability safety valve".

- The EPA should revise its formula so that existing nuclear generation would count towards compliance.

- EPA must rely on Regional Transmission Organizations and utilities to determine what changes to generation mix are feasible while still ensuring reliability of the electric grid.

- The EPA should clarify its intent regarding building blocks to be severable. Does the EPA mean that an emission limit will be recalculated should a building block be determined unlawful or does it mean an

emission limit is fixed and the remaining building blocks may be used to meet the emission limit?

- In determining Kansas's standard of performance, the EPA must take into account the remaining useful life of affected electric generating units.

- The EPA has already publicly acknowledged that changes will be made to the final rule. Because of the complexities of this rule, the EPA should provide a comment period after any final rule is issued.

The KCC appreciates the opportunity to submit comments and provides the following analysis in support of its concerns and recommendations.

II. EPA's Standard of Performance

The EPA's explanation of its Best System of Emission Reduction (BSER) proposal begins with the statutory definition of a "standard of performance":

> The term ''standard of performance'' means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the *best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated*. [42 U.S.C. 7411(a) (1)]. [Emphasis Added].

In considering what BSER to use to set a standard of performance to reduce CO_2 emissions, the EPA has determined that it will take two basic approaches. These two approaches are to reduce the carbon intensity of certain affected electric generating units (EGUs) by (1) improving the efficiency of their operations and (2) lowering emissions by reducing their utilization (capacity) levels. In order to express the BSER as an emission limitation for each state, the EPA proposes to base the two approaches on measures grouped into four main categories or "building blocks. The EPA has determined that the four building blocks combined constitute the "best system of emission reduction …adequately demonstrated" for fossil fuel-fired EGUs.[1] The four building blocks comprising the BSER are:

1. Reducing the carbon intensity of generation at individual affected EGUs through heat rate improvements.

[1] Carbon Pollution Guideline for Existing Stationary Sources: Electric Generating Units, 79 Fed. Reg. 34830, 34836 (proposed June 18, 2014) (to be codified at 40 C.F.R. pt. 60)

2. Reducing emissions from the most carbon-intensive affected EGUs in the amount that results from substituting generation at those EGUs with generation from less carbon-intensive affected EGUs (including NGCC units under construction).

3. Reducing emissions from affected EGUs in the amount that results from substituting generation at those EGUs with expanded low-carbon or zero-carbon generation.
4. Reducing emissions from affected EGUs in the amount that results from the use of demand-side energy efficiency that reduces the amount of generation required.[2]

In addition, the EPA states that its Standard of Performance:

> … allows states to pursue policies to reduce carbon pollution that: (1) continue to rely on a diverse set of energy resources, (2) ensure electric system reliability, (3) provide affordable electricity, (4) recognize investments that states and power companies are already making, and (5) can be tailored to meet the specific energy, environmental and economic needs and goals of each state. Thus, the proposed guidelines would achieve meaningful CO_2 emission reduction while maintaining the reliability and affordability of electricity in the U.S.[3]

Based on the EPA's definition and explanation of the Standard of Performance to be applied, the EPA apparently claims it understands and recognizes the statutory and technical implications of its proposed Clean Power Plan. However, as discussed in the comments below, the EPA either does not understand or chooses to ignore the significant legal and technical implications of the proposed plan.

III. Threshold Legal Issues

a. Jurisdiction Over the Production of Energy

The interplay of federal and state jurisdiction over the generation, transmission, and sale of power is an established legal field. The federal government exercises jurisdiction over the interstate transmission of electricity and sales of power for resale.[4] However, it is a well-settled principle of law that the states retain jurisdiction and control over generating facilities and

[2] 79 Fed. Reg. at 34836.
[3] 79 Fed Reg. at 34832-34833.
[4] Federal Power Act, 16 U.S.C.A. § 824(a).

intrastate electric reliability determinations associated therewith.[5] The Federal Power Act explicitly states, in fact, that its jurisdiction shall "extend only to those matters which are not subject to regulation by the States" and "shall not have jurisdiction . . . over facilities used for the generation of electric energy."[6]

In short, the individual states retain ultimate authority for determining the adequacy of their power generation resources.[7] In determining the adequacy and reliability of its system, a state must balance various public interest concerns and technical considerations to maintain sufficient and efficient service at just and reasonable rates. The overarching technical and policy concern in this area is the appropriate generation mix to be employed by jurisdictional utilities. The proposed Clean Power Plan severely invades a state's authority to make such determinations.

In conjunction with the EPA's issuance of its Clean Power Plan, it issued the *Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units* (Legal Memorandum). In this document, the EPA states the following:

> A key step in promulgating requirements under CAA section 111(d) is determining the "best system of emission reduction ... adequately demonstrated" (BSER). In promulgating the implementing regulations, the EPA explicitly stated that it is authorized to determine BSER; accordingly, in this rulemaking, the EPA is determining BSER. [Cite omitted].
>
> The EPA is proposing two alternative approaches for the "best system of emission reduction ... adequately demonstrated" for fossil fuel-fired EGUs, each of which is based on methods that have [sic] employed for reducing emissions of air pollutants, including, in some cases, CO_2, from these sources. The first identifies the combination of the four building blocks as the BSER. These include operational improvements and equipment upgrades that the coal-fired steam-generating EGUs in the state may undertake to improve their heat rate (building block 1) and increases in, or retention of, zero- or low-emitting generation, as well as measures to reduce demand for generation, all

[5] E.g., the State of Kansas's statutory exercise of jurisdiction pursuant to K.S.A. 66-101b. The vast majority of states have passed equivalent statutes recognizing their authority over intrastate electric rates and service.
[6] 16 U.S.C.A § 824(a) & 824(b)(1).
[7] See also, Resolution Relating To the Federal/State Jurisdictional Boundaries in Setting Generation Resource Adequacy Standards, Adopted by the National Association of Regulatory Utility Commissioners (NARUC) Board of Directors, July 27, 2005, http://www.naruc.org/Resolutions/FederalStateBoundaries_s0705.pdf.

> of which, taken together, displace, or avoid the need for, generation from the affected EGUs (building blocks 2, 3, and 4). *All of these measures are components of a "system of emission reduction" for the affected EGUs because they either improve the carbon intensity of the affected EGUs in generating electricity or, because of the integrated nature of the electricity grid and the fungibility of electricity and electricity services, they displace or avoid the need for generation from those sources and thereby reduce the emissions from those sources*. Moreover, those measures may be undertaken by the affected EGUs themselves and, in the case of building blocks 2, 3, and 4, they may be required by the states.[8] [Emphasis Added].

EPA continues:

> Reduced generation is encompassed by the terms of the phrase "system of emission reduction" in CAA section 111 (a) (1), as a matter of *Chevron* step 1, because, in accordance with the above-discussed definitions of "system," reduced generation is a "set of things" – which included reduced use of generating equipment and therefore reduced fuel input – that the affected source may take to reduce its CO_2 emissions.[9]

The EPA's legal analysis cited above effectively asserts jurisdiction over the production and dispatch[10] of electricity in Kansas by requiring reduced generation from affected EGUs – coal plants – and increased use of gas-fired combined cycle generation, renewable generation, and demand side management energy efficiency (DSM energy efficiency or energy efficiency). The EPA further asserts jurisdiction over the generation mix of Kansas utilities because its hypothetical/suggested generation mix – BSER – is used to calculate and set a CO_2 limit on all greenhouse gas emissions in the state. While the EPA asserts that states have flexibility in developing compliance plans – and presumably by doing so denies any assertion of jurisdiction over generation – Kansas's only option under the EPA's proposed plan is to significantly change the generation mix in the state. This is a stark departure from many past regulations aimed at

[8] *Legal Memorandum for Proposed Carbon Pollution Emission Guidelines for Existing Electric Utility Generating Units*, http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf, pp. 13-14. (Legal Memorandum)

[9] Legal Memorandum, p. 81.

[10] Dispatch is defined as follows: **Dispatching:** The operating control of an integrated electric system involving operations such as: (1) the assignment of load to specific generating stations and other sources of supply to effect the most economical supply as the total or the significant area loads rise or fall; (2) the control of operations and maintenance of high-voltage lines, substations, and equipment; (3) the operation of principal tie lines and switching; and (4) the scheduling of energy transactions with connecting electric utilities. U.S Energy Information Agency Glossary: http://www.eia.gov/tools/glossary.

implementation of specific technological measures within the current generation mix. Moreover, the changes in generation mix must be approved by EPA. For example, the Legal Memorandum states:

> Under the EPA's implementing regulations for CAA section 111(d)(1), the EPA must determine the best system of emission reduction for the sources, and then apply that best system to determine the required level of emissions or emission reduction, which the regulations refer to as the "emissions guideline." Under section 111(d)(1), the states must then adopt state plans that establish standards of performance and measures that implement and enforce those standards. In the case of an air pollutant that EPA has determined may cause or contribute to endangerment of public health, *the states' standards of performance must not be less stringent than the EPA's emission guideline*. CAA section 111(d)(1) grants states the authority, in applying a standard of performance to particular sources, to take into account the source's remaining useful life or other factors.
>
> *The state must submit its plan to the EPA for approval*, and, under CAA section 111(d)(2), the EPA must approve the state plan if it is "satisfactory." If a state does not submit a plan, the EPA must establish a federal plan for that state. Once a state receives the EPA's approval for its plan, the provisions in the plan become federally enforceable against the entity responsible for noncompliance, in the same manner as the provisions of an approved state implementation plan (SIP) under CAA section 110. [Emphasis Added]. [Cites Omitted].[11]

While the EPA's Legal Memorandum provides extensive discussion of EPA's authority under the Clean Air Act's (CAA) section 111(d), there is no attempt to reconcile EPA's implicit assertion of jurisdiction over generation mix with the current authority of state public utility commissions (PUCs) where vertically integrated systems are still fully regulated. Future litigation will undoubtedly analyze whether Congress, through the CAA, intended for EPA to commandeer control of state generation resources. The KCC is not prepared to conclusively answer that question at this time. However, the proposition seems dubious, considering Congress' clearly evinced and stated policy in the Federal Power Act cited above.

[11] Legal Memorandum, pp. 3-4.

b. The Staff of the Kansas Corporation Commission Will Recommend That the Commission Require its Jurisdictional Utilities to Seek Prior Approval for Any Plan That is to be Included as Part of Kansas's Compliance Strategy

In asserting jurisdiction over generation mix, the EPA has also failed to reconcile how affected EGUs that are not jurisdictional to the KCC will be addressed. While not speaking for the State of Kansas's environmental agency – the Kansas Department of Health and Environment (KDHE) – the KCC is not aware of any authority the KDHE has to require a change in the generation mix of the affected EGUs. Therefore, the EPA's reliance on the State to require changes in generation mix is misplaced, when considering several affected EGUs are not jurisdictional to the KCC under Kansas law.

As stated above, a threshold legal issue for the KCC is the Commission's authority over the generation mix of its jurisdictional utilities versus the EPA's assertion that the generation from coal-fired plants in Kansas must be significantly reduced or eliminated. Because the EPA's CPP is specifically designed to affect generation mix (and, in turn, reliability), the Staff of the KCC will recommend to the Commission that our jurisdictional utilities should be required to seek prior approval from the Commission for any plan that is to be included as part of Kansas's compliance strategy. By prior approval, the KCC means that each jurisdictional utility must *first* seek approval from the KCC for any compliance plan. After receiving approval from the KCC, the jurisdictional utility may then work with KDHE to formalize the approved plan. In addition, the KCC will not, under any circumstances, recommend approval of any plan that may result in an electrical system that is unreliable or conflicts with any other Commission statutory right or obligation.

c. EPA Has Not "Adequately Demonstrated" its Proposed Best System of Emission Reduction To Be Reasonably Reliable, Reasonably Efficient, and Not Exorbitantly Costly

By choosing a BSER that requires a significant change in the generation mix for the nation as a whole – and Kansas in particular – the EPA has created incredibly complex legal issues over whether the EPA or each individual state ultimately determines whether the electric system is reasonable, reliable, and efficient. Aside from that jurisdictional issue, the KCC's review of the CPP indicates that EPA has failed to demonstrate that its BSER, using generation mix as its "system," is "adequately demonstrated" as required by CAA section 111. This

analysis is informed by the KCC's expertise in the subject matter and exposes EPA's lack of expertise in the same.

The Legal Memorandum states the following:

> For the reasons described next, the measures in each of building blocks 2, 3, and 4 qualify as components of the "best system of emission reduction … adequately demonstrated." As noted elsewhere, *the D.C. Circuit has interpreted the BSER as "[a]n adequately demonstrated system," and explained that such a system is one that can "be [ ] shown to be reasonably reliable, reasonably efficient, and … reasonably … expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way."* In fact, the measures in the building blocks do meet the criteria established by the Court in the section 111 case law. In addition, the measures are "adequately demonstrated" because they have already been implemented in many states, and because they may be undertaken by the affected EGUs in the regulated markets in which they operate, or may be implemented by the states in the state plans. [Cites omitted]. [Emphasis added].[12]

The Legal Memorandum continues discussing "adequately demonstrated" by stating:

> Another reason that the measures in building blocks 2, 3, and 4 should be considered "adequately demonstrated" – and wholly apart from the fact that the EGUs may undertake those measures themselves – is based on the fact that CAA section 111 (d) (1) (A) provides, by its terms, that the standards of performance that are based on the BSER must be established by the states in the state plans. As a result, *emissions reduction measures that the states themselves have the authority under state law to put in place may be considered to be part of the BSER. While EGU owners and operators may effectuate such measures directly or indirectly, the states also have the authority to enact measures such as dispatch limitations, renewable portfolio standards that require investment in renewable energy resources, as well as demand-side energy efficiency measures."* As noted in the preamble, many states have already done so. [Cites omitted]. [Emphasis added].[13]

[12] Legal Memorandum, pp. 65-66.
[13] Legal Memorandum, p. 74.

In order to support the "adequately demonstrated" claim, the Legal Memorandum relies almost exclusively on the fact that states have implemented similar measures to building blocks 2, 3, and 4. For example, the Legal Memorandum notes: (1) As also noted in the preamble, some utilities, states and regions are already relying on these measures for the specific purpose of reducing CO_2 emissions from EGUs; (2) In fact, as noted in the preamble, numerous states have already imposed renewable portfolio standards and demand-side energy efficiency requirements on those utilities; and (3) As noted in the preamble, many states have already done so.[14]

Based on the above-cited material, the EPA's conclusory logic is that (1) because PUCs have authority over generation mix, state legislatures can implement renewable portfolio standards through law, and state PUCs and/or state legislatures can require demand-side energy efficiency programs, and (2) because *some* states have required such, the EPA's plan is adequately demonstrated for all states. EPA provides no rigorous technical modeling or analysis demonstrating its BSER to be "reasonably reliable, reasonably efficient, and … reasonably … expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way." The comments in Section IV below provide technical analysis showing EPA's BSER is not "adequately demonstrated."

IV. Analysis of EPA's Best System of Emission Reduction

The EPA demonstrates its lack of experience and technical knowledge of the electrical system, generation mix, and associated reliability issues by relying solely on the generic assertion that states have implemented measures similar to the EPA's building blocks. As will now be discussed, the EPA has completely failed to "adequately demonstrate" that its Clean Power Plan, as proposed, ensures the electrical system in Kansas will continue to be "reasonably reliable, reasonably efficient, and can reasonably be expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way."

a. The EPA's Calculation of Kansas's Goal for Carbon Reduction is Seriously Flawed

The EPA used building blocks to calculate each state's carbon reduction goal and, in so doing, has made each building block legally severable from the others. This is clearly not the way that an integrated electric system operates and this issue will be discussed further in these

[14] Legal Memorandum, pp. 71-74.

comments in Section V. In order to have a reliable, efficient, and reasonably priced electric system, the inter-relationship between each building block, along with transmission system constraints, must be considered as an integrated whole.

The KCC has reviewed the EPA's calculations setting Kansas's greenhouse gas goal. The KCC is not conceding agreement with the EPA's building block methodology, and the KCC also does not claim its review is complete given the limited amount of time allowed to provide comments on the proposed plan. However, the KCC's technical review results in a significant change in the CO_2 emission goal assigned to Kansas. Specifically, the goal should be increased from the figure calculated by EPA (1,499 lbs/MWh) to 1,950 lbs/MWh. The changes made by the KCC were to correct for serious flaws within the EPA's calculations. The changes are noted below and follow the steps outlined in the EPA's calculations.[15]

i. Step 1: Calculation of the 2012 State Fossil Emission Rate

The purpose of the Clean Power Plan is to **"**Cut carbon emission from the power sector by 30 percent nationwide below 2005 levels" by 2030.[16] Table 1 below shows that the seven affected Kansas coal plants identified by EPA have reduced their combined CO_2 emissions by 19.1% between 2005 and 2012. Thus, one would expect that Kansas has only to reduce CO_2 emissions by another 10.9% by 2030. But by using a rate approach (lbs./MWh) for calculating Kansas's 2030 goal, the EPA has obviated the dramatic improvement Kansas achieved in CO_2 reduction from 2005 to 2012.

Kansas achieved its 19.1% reduction in CO_2 between 2005 and 2012 by reducing the generation from coal plants and re-dispatching less carbon intensive generation. From Table 1, note that, between 2005 and 2012, net energy output from affected coal plants declined by 17.7% while CO_2 emissions declined 19.1%. This large reduction in CO_2 emissions was achieved while Kansas's retail sales of electricity increased by 3.15% (see Table 2 below). By using the rate of CO_2 emissions rather than the absolute reduction in CO_2 emissions, EPA shrank the reduction in CO_2 emissions in Kansas from 19.1% to just 1.7%.

[15] We have used the same method to calculate the CO_2 emissions goal that EPA did in its Technical Support Document: "Goal Computation Technical Support Document." Although there are four building blocks in EPA's methodology for estimating the state goals, there are seven steps in the estimation process.
[16] From EPA's press release for the Clean Power Program, June 2, 2014.

Table 1

	2005		2012	
Plant Name	**Net Energy Output (MWh)**	**Carbon Dioxide Emissions (Unadjusted) (tons)**	**Net Energy Output (MWh)**	**Carbon Dioxide Emissions (Unadjusted) (tons)**
Holcomb	2,684,906.0	2,801,875.2	1,967,702	2,154,747
Jeffrey Energy Center	15,145,728.0	18,123,589.6	11,404,539	13,879,788
La Cygne	9,038,866.0	10,244,306.6	8,534,221	9,575,102
Lawrence Energy Center	3,332,297.0	4,636,792.8	3,028,294	3,490,925
Nearman Creek	1,470,360.0	1,936,160.1	962,288	1,465,887
Quindaro	1,002,799.0	1,365,467.3	892,105	1,079,681
Tecumseh Energy Center	1,403,785.0	1,772,969.5	1,190,444	1,423,645
TOTAL FOR PLANTS	**34,078,741**	**40,881,161**	**27,979,593**	**33,069,775**

NOTE: the 2012 data came from the "Goal Computation Technical Support Document", Appendix 7 - 2012 plant-level data and unit-level inventory. The data for 2005 comes from EPA's eGRID2007V1_1year05_plant workbook.

Table 2

Kansas Retail Sales of Electricity (Megawatthours)				
Year	**Residential**	**Commercial**	**Industrial**	**Total**
2005	13,406,146	14,453,103	11,165,034	39,024,283
2012	13,796,679	15,455,686	11,041,111	40,293,476

NOTE: From EIA'a Annual State Level Retail Sales of Electricity Workbook.

Having stated such, the KCC used the same 2012 data for fossil fuel sources of electric generation to arrive at a goal of 1,950 lbs/MWh. The KCC's analysis is attached as KCC Exhibit 1.

ii. Step 2: BSER Block One – Heat Rate Improvements (HRI)

The EPA asserts that a 6% heat rate improvement through improved engineering is feasible.[17] Most modern EGUs are well maintained and have already achieved any heat rate improvements economically available to them. In fact, from 2005 to 2012, Kansas affected coal

[17] EPA states "The EPA's analysis finds that a total of 6% heat rate improvements for the coal study population can be achieved through two types of changes: best practices that have the potential to improve heat rate by 4% and equipment upgrades that have the potential to improve heat rate by 2%." TDS "GHG Abatement Measures", p. 2-34. To adequate apply this criteria, EPA should have investigated the practices and equipment at all coal plants instead of taking an average.

plants had a 1.7% improvement in their peak KWh CO_2 emissions rate. The EPA's selection of heat rate improvement as a building block may put the affected EGUs at risk to the EPA's new source review, should any heat rate improvements be made. This result places too much risk on heat rate improvements, and the KCC would be reluctant to recommend any such improvements to the Commission as part of a compliance plan because the plant might be shut down under new source review, which would lead to stranded costs. Additionally, any available heat rate improvements will be extremely costly.

The EPA uses a breakeven analysis to show that if a fleet-wide heat rate improvement of 6% in coal plants is technically feasible, then by default, it is economic. Moreover, the 6% improvement in heat rate is a national average that is not specific to Kansas EGUs. The KCC asserts that any achievable heat rate improvements are specific to each coal-fired unit and cannot be generalized through a national average. In addition, a cost-benefit study would need to be conducted for each specific coal-fired unit to determine if any achievable heat rate improvements can be economically justified.

Because the EPA has not adequately demonstrated that heat rate improvements can be made to any specific EGUs in Kansas, the KCC has set the heat rate improvement increase in efficiency to zero percent for Kansas's affected EGUs.

iii. Steps 3a and 3b: BSER Block Two – Re-dispatch of Coal to Existing NGCC and Under Construction NGCC

Step 3 has two parts: re-dispatch from existing NGCCs and from NGCCs under construction, neither of which Kansas has. Thus, the KCC agrees with the EPA that NGCC should not be included in the calculation of Kansas's state-level goal. However, regarding the re-dispatch of coal-fired units to NGCC, the EPA states the following:

> …, the EPA believes the cost considerations just described indicate a higher cost for CO_2 reductions achievable from re-dispatch to new NGCC capacity than from other options, at least for states with limited natural gas pipeline infrastructure, and we therefore do not propose to include this option in state goals.
>
> While the EPA is not proposing that new NGCC capacity is part of the basis supporting the BSER, we recognize that there are a number of new NGCC

> units being proposed and that many modeling efforts suggest that development of new NGCC capacity would likely be used as a CO_2 emission mitigation strategy. Therefore, we invite comment on whether we should consider construction and use of new NGCC capacity as part of the basis supporting the BSER. Further, we take comment on ways to define appropriate state-level goals based on consideration of new NGCC capacity.[18]

The KCC does not believe the EPA should define appropriate state-level goals based on consideration of new NGCC capacity. The current plan is already overly complex and adding forecasted NGCC capacity creates yet another layer of complexity. In addition, the KCC already has concerns about stranded costs for existing retrofitted coal units, and the addition of NGCC would exacerbate stranded costs while also raising rates to pay for the additional NGCC units.

iv. Step 4a: BSER Block Three – "At Risk" Nuclear Capacity

Kansas currently has one nuclear plant – Wolf Creek – with an output of 1,205 MW that is owned jointly by three Kansas utilities. The EPA's proposed plan does not recognize the significant zero-carbon emissions from Wolf Creek that serve to lower Kansas's overall carbon footprint. In fact, the CPP, as structured, *penalizes* states with nuclear generation by including "at risk" nuclear generation in the denominator of the CPP's mathematical formula. The penalty resulting from inclusion of "at risk" nuclear generation in the formula is derived by the denominator's effect of *lowering* EPA's proposed emission rates. The impact of the formula is created by the EPA's use of a basic ratio of:

carbon emissions / megawatt hours of production

The EPA's definition of the basic ratio above requires generation resources with zero-emissions to increase only the denominator of the ratio. Because there is no effect on the numerator, each megawatt hour of zero-carbon generation added by EPA for "at risk" nuclear resources lowers the emission limit goal and thus requires greater carbon emission reductions. This is counterintuitive and reflects either the EPA's lack of understanding of electric generation or is simply an attempt to derive a lower emission limit. Penalizing Kansas for zero-carbon generation is inconsistent with the EPA's espoused goal of lowering carbon emissions. A rule

[18] 79 Fed Reg. at 34877.

designed to reduce carbon emissions should reward – not penalize – the use of nuclear generation.

Because Kansas has no nuclear generation under construction and no part of our single nuclear plant – Wolf Creek – is "at risk", this element is eliminated from our calculation. In addition, the EPA should revise its formula so that existing nuclear generation would count towards compliance.

v. Step 4b: BSER Block Three – Renewable Energy (RE)

EPA states that it uses only energy-based RPS standards in assigning targets. Because Kansas has a capacity-based RPS, Kansas was assigned the South Central Region's[19] average target of 20% of generation as a default.[20] Besides Kansas, Texas has the only other RPS target in the South Central Region. Like Kansas, Texas' RPS target is capacity-based. Because no other states in the region have RPS standards, EPA had no energy-based RPS targets in the region that could establish an energy-based target for the region. Thus, EPA used an arbitrary energy-based RPS target of 20% for Kansas and the rest of the South Central Region.

The KCC has estimated the amount of renewable energy that would count toward Kansas abatement using the Kansas RES standard of 20% of capacity. Capacity is determined by taking the average peak demand from the previous three years. Currently, the average peak demand is about 1,750 MW and is growing slowly. An extremely optimistic estimate of 20% of peak demand in 2030 would be 1,900 MW.[21] While Kansas's wind resources are excellent, the best generation sites have been taken for the most part. Therefore, a realistic assumption is that renewable resources that count toward the RES would have a capacity factor of 35%. Given both of these assumptions, the KCC's estimate of the renewable generation that would count

[19] The South Central Region is made up of Arkansas, Kansas, Louisiana, Nebraska, Oklahoma, and Texas.
[20] EPA stated on page 10 in footnote 107 of Chapter 4 of the Technical Support Document (TSD) "GHG Abatement Measures" that "EPA did not include targets that were capacity-based." When a state does not have its own RPS target it is assigned the regional average target of the region the state is located in.
[21] If peak load in Kansas grew from 1,750 MW in 2013 to 1,900 in 2030, it would represent an annual growth rate of about 0.5%. There is not an available time series of Kansas peak load; the slow growth of retail energy consumption in Kansas is an optimistic proxy of peak load growth. From 2005 to 2013, retail consumption in Kansas grew at an annual rate of 0.1%, and from 2008 to 2013, the growth rate was negative. The large IOUs in Kansas have noted a flattening of their peak since 2008 which would indicate that even a 0.1% annual growth rate for peak load is optimistic. Thus, by assuming that Kansas peak load will grow at a 0.5% growth rate, the KCC is assuming an extremely optimistic peak load growth rate.

toward Kansas abatement would be 5,825,400 MWhs. With these estimates, the Kansas GHG goal is 1,950 lbs./MWh.

Because electric systems are integrated, many Kansas renewable resources are developed to meet energy and/or RPS requirements in neighboring states and benefit from the balancing and other integrated services of the entire electric system. The EPA's renewable energy building block currently assigns all of Kansas's renewable energy to Kansas. However, the EPA has provided mixed signals as to whether a state will be credited all renewable energy produced in the state or will only receive credit for the renewable energy consumed in the state. The traditional approach has been to credit renewable resources to the source that possesses the Renewable Energy Credits (RECs). However, the CPP assigns all carbon generated in the state to the state regardless of whether a portion of the power is sold outside of the state. Therefore, if the EPA decides to only credit a state for the renewable energy consumed in the state, then the EPA should also provide symmetrical treatment for carbon emissions. That is, only carbon associated with fossil-fuel generated electricity *consumed* in the state should count against a state's emission limit goal.

vi. Step 5: BSER Block 4 – Demand-Side Management Energy Efficiency

The EPA purported to use a seven step process to derive its estimates of achievable results using demand-side management energy efficiency (DSM energy efficiency). However, the EPA provides very little evidence regarding its process.[22] The result is that, for the 2030 (Option 1), the EPA assumes that states can improve DSM energy efficiency performance by 0.2% per year. For example, if in 2017, DSM energy efficiency is reducing retail sales 0.5%, then the new programs in 2018 are assumed to reduce retail sales by 0.7% for a cumulative 1.2% reduction. The increase goes on until it hits 1.5% decrease in retail sales per year and then stays the same from there on out. Having set its goal for DSM energy efficiency, the EPA acknowledges that this level of performance has not been sustained nationwide previously and

[22] In 2012, EPA found three states that had achieved, in one year, a 1.5% energy efficiency performance or better. We also note that this was self-reported data which is not particularly believable. "EPA notes potential concerns associated with consistency and quality of reported DSM program data in Form EIA-861. Specifically, the data are self-reported by utilities and DSM program administrators." While EPA also notes that the data quality is improving, unreliable data should not be used when establishing goals for such a disruptive program as the Clean Power Plan. See TDS "GHG Abatement Measures", pp. 5-32-33, 63.

that the annual percentage increases, as well as the cumulative energy efficiency savings, are well above the average savings that most states have achieved to-date. In addition, energy efficiency programs are plagued by problems such as the rebound effect because customers tend to use the new more efficient technology more than the old inefficient technology.[23] Therefore, energy efficiency savings rarely result in the savings expected.

Energy efficiency is not a dispatchable resource and therefore should not be included as a building block. Moreover, DSM energy efficiency programs are voluntary on the part of consumers and inclusion of these programs expands enforceability into the homes and businesses of the citizens of Kansas. Kansas cannot guarantee that consumers will participate in any energy efficiency programs designed to meet an emissions limit and any threat of enforcement will provide an incentive for homeowners and businesses to not participate.

The inclusion of DSM energy efficiency in the EPA's definition of a "best system of emissions reduction" should be removed. The inclusion of DSM energy efficiency creates a "standard for emissions of air pollutants" that cannot be a measure. DSM energy efficiency is not a measurable standard because measurement of these types of programs is based on multiple layers of estimates. This fact is recognized by the EPA when it states "many states with energy efficiency programs use different input values and assumptions" to estimate energy savings from such programs.[24]

As described above, DSM energy efficiency doesn't yield the emission reduction results EPA estimates. Also, DSM energy efficiency is infeasible as a compliance option because it is not dispatchable and is not measurable in any meaningful way. Therefore, DSM energy efficiency should be removed from EPA's building blocks and resulting emission reduction calculations.

[23] "In policy discussions of combating climate change, the most cost-effective response is often said to be energy efficiency: improving devices to provide the same services using less energy, and thus causing fewer greenhouse gas emissions. The impact of energy efficiency on total energy use is controversial, however, because reducing the energy that a device consumes generally lowers the marginal cost of using the device and may raise the wealth of consumers and producers. Thus, an energy efficiency improvement can lead to greater use of the energy efficient device and increased spending on other goods that were previously not affordable. This phenomenon is known as "rebound" or "takeback" in the energy efficiency literature." Severin Borenstein, "A Microeconomics Framework for Evaluating Energy Efficiency Rebound and Some Implications." Haas Working Paper No. 242R, Energy Institute at Hass, University of California at Berkeley, January 2014. Borenstein goes on to estimate the impact of rebound for fuel efficiency in autos and lighting. His conclusion is that the rebound effect is between 10% and 40%.
[24] Technical Support Document, State Plan Considerations, p. 42.

b. Conclusion: The EPA's Carbon Limit for Kansas is Too Low

Based on the EPA's formula for determining an emissions limit using the four building blocks, there is a bias on the part of EPA to lower the emissions standard as far as possible – beyond standards that result from an adequately demonstrated system. In doing so, the EPA has proposed an emissions standard for Kansas that is too low to provide any real options for compliance other than spending an exorbitant amount of money on a combination of new NGCC plants, renewable energy, transmission investment, and stranded costs.

The EPA is under the mistaken impression that because the electric grid is integrated, electricity is "fungible" and displacement of generation from coal-fired units is an easy task. What the EPA fails to acknowledge is that the affected coal-fired EGUs are base-load units. The U.S. Energy Information Agency defines base-load as follows:

> Base load: The minimum amount of electric power delivered or required over a given period of time at a steady rate.
>
> Base load capacity: The generating equipment normally operated to serve loads on an around-the-clock basis.
>
> Base load plant: A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and *which consequently produces electricity at an essentially constant rate and runs continuously. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs*.[25] [Emphasis added].

By including non-dispatchable resources, such as renewable generation and DSM energy efficiency, the EPA has understated the CO_2 emissions limit that can reliably be met in Kansas**.** While renewable generation certainly has a place in the overall generation portfolio of an electric utility, the inclusion of renewable energy must be integrated carefully with an eye towards the overall reliability of the grid. As noted above, a base-load plant provides electricity at an essentially constant rate and runs continuously. Obviously, DSM energy efficiency is not a generation resource and cannot under any circumstances provide electricity to the grid.

[25] U.S Energy Information Agency Glossary: http://www.eia.gov/tools/glossary/index.cfm?id=B

V. The EPA's Carbon Limit for Kansas Will Not Ensure a Reliable or Affordable Electric System Nor Does It Recognize Investments That Power Companies are Already Making

a. The Carbon Limits Established for Kansas Will Create Reliability Issues

i. The Integrated Planning Model Cannot Establish Grid Reliability If the Carbon Limit is Achieved

The primary reason the EPA has not and cannot "adequately demonstrate" its proposed carbon reduction goals for each state is due to the EPA's reliance on its Integrated Planning Model (IPM). The IPM is a linear emissions planning model, not a generation dispatch model. As such, the IPM cannot correctly determine the achievable carbon reductions for Kansas – or any other state – through its use by EPA as a substitute model for re-dispatch. Only individual utilities and RTOs can accurately determine possible carbon reduction goals through the use of their respective dispatch models. Dispatch models are non-linear and require tremendous amounts of actual historical operating data to solve for multiple variables in order to determine optimal dispatch. Any attempt by the EPA to re-dispatch individual states through the use of the IPM using national data will inherently create reliability issues for the electric grid.

The IPM is a deterministic dynamic linear programming model that determines "the least-cost method of meeting energy and peak demand requirements over a specified period."[26] Specifically, EPA states that the IPM can be used for strategic planning: "IPM can be used to assess the costs and risks associated with alternative utility and consumer resource planning strategies as characterized by the portfolio of options included in the input data base."[27] However, the IPM cannot be used to establish the system reliability of the electric grid because of the severe limitations of the model.

Some of the model's limitations are:

1. IPM only dispatches on a seasonal basis: summer (May 1 – September 30) and winter (October 1 – April 30).[28]

2. IPM does not include the detailed intraregional transmission and distribution necessary to evaluate the effects of the Clean Power Plan at numerous local levels. [29]

[26] EPA's Power Sector Modeling Platform v.5.13, Chapter 2: Modeling Framework, p. 2-1.
[27] Id., p. 2-2.
[28] Id., p. 2-4.

3. IPM has an algorithm which aggregates plants; it does not treat each plant as a separate geographical entity.[30] Transmission and distribution congestion happen at the local geographic level. For grid reliability analysis, generation and natural gas infrastructure geographical location is paramount.

4. IPM has a natural gas module that is primarily designed to estimate the demand and supply of natural gas. IPM also has the same seasonality as the dispatch seasonality noted in Item No. 1 above as well as an interregional gas transmission network.[31] However, it does not capture the complexity of intraregional transportation constraints.

The structure of the IPM means:

1. Renewable resources cannot be adequately modeled. To adequately simulate the effect of wind and solar generation on the grid, a dispatch model must contain random weather inputs so that the intermittence of renewable resources can affect the model. To simulate renewable resources' intermittent effect on the grid, the dispatch model must dispatch on an hourly basis. By modeling multiple years of random weather, an hourly dispatch model can indicate where transmission constraints might occur within the grid. The volatility created by the effect of random weather on renewable resources will suggest where new balancing and regulating generation should be built. Finally, a planning model with details of the local natural gas transmission system will indicate the feasibility of building a natural gas plant in the region. IPM cannot do any of these tasks and as such cannot estimate the cost of retaining grid reliability.

2. Because IPM does not have a detailed, local map of the grid or a detailed local map of natural gas infrastructure, it cannot estimate the cost of shutting down an existing coal plant. Moreover, IPM cannot even estimate the cost and reliability impact on the grid of simply significantly reducing the use of a coal plant.

These are just two of the failures of EPA's analysis of the Clean Power Plan resulting from its use of the IPM. The IPM's inability to model the interaction of electric generation, transmission, distribution, and natural gas infrastructure calls into question any conclusions made by EPA about both the reliability and cost of its proposed CPP.

To adequately demonstrate that its proposed best system of emission reduction is feasible, EPA must demonstrate that, in achieving a state's emissions limit goal, the state's electric grid stays reliable at a reasonable cost. EPA has not demonstrated the reliability of the

[29] "IPM includes a detailed representation of existing transmission capabilities between model regions." Id., p. 2-10.
[30] Id., p. 2-5.
[31] EPA's Power Sector Modeling Platform v.5.13, Chapter 10: Natural Gas, pp. 10-1-4.

electric grid nor has it accurately estimated the expense of ensuring the reliability of the grid. Instead, to arrive at its proposed CO_2 emission goals, EPA has used four building blocks that it applies sequentially in a crude simulation of how states could achieve CO_2 reductions. The end result is that EPA requires states to significantly change their generation mix, while somehow expecting that this radically different generation mix will work within an existing infrastructure designed for the current generation mix. Fundamentally changing complex network relationships like the electric grid and natural gas supply infrastructure is difficult, time-consuming, and exorbitantly expensive.

Because the EPA has relied on the simplistic and flawed IPM as its simulation tool, EPA cannot demonstrate the reliability of the grid or reasonably forecast the cost of its Clean Power Plan.

ii. The Southwest Power Pool's Reliability Impact Assessment of the Clean Power Plan indicates significant reliability Issues

The SPP filed comments on October 9, 2014, regarding the EPA's Clean Power Plan. The SPP's comments are centered around a reliability impact assessment based on the EPA's plan. The SPP evaluation includes an evaluation of transmission system impacts and an evaluation of impacts to reserve margin. The SPP states the following in its comments:

> The SPP region will experience numerous thermal overloads and low voltage occurrences under both scenarios studied. Results of the first part of the transmission system impact evaluation indicate that if the assumed EGU retirements were to occur absent requisite transmission and generation infrastructure improvements, *the power grid would suffer extreme reactive deficiencies (see Figure 3) that would expose it to widespread reliability risks resulting in significant loss of load and violations of NERC reliability standards.*
>
> Results of the second part of the evaluation indicate that *even with generation capacity added to replace the assumed EGU retirements, additional transmission infrastructure will be needed to maintain reliable operation of the grid. This assessment revealed 38 overloaded elements that SPP would be required to mitigate with transmission planning solutions.* These overloaded elements were identified in the portions of six states – Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas – that operate within the SPP region. *Portions of the system in the Texas panhandle, western Kansas, and northern Arkansas were so severely*

> *overloaded that cascading outages and voltage collapse would occur and would result in violations of NERC reliability standards*
>
> Both parts of the assessment assumed that electric transmission expansion currently planned to meet previously identified needs would be available. It is important to note that the transmission expansion currently planned in SPP does not consider EGU retirements expected as a result of the CPP. *EPA's projected EGU retirements represent approximately 6,000 MW of additional capacity being retired in the SPP region beyond that currently expected by 2020. This represents approximately a 200% increase in retired generating capacity compared to SPP's current expectations. Unless the proposed CPP is modified significantly, SPP's transmission system impact evaluation indicates serious, detrimental impacts on the reliable operation of the bulk electric system in the SPP region, introducing the very real possibility of rolling blackouts or cascading outages that will have significant impacts on human health, public safety and economic activity within the region*.[32] [Emphasis Added]. [Figure Omitted].

Based on the SPP's analysis, it is clear EPA has not adequately demonstrated the reliability of its Clean Power Plan. Moreover, due to the shortcomings of the IPM described above, EPA cannot demonstrate whether its Clean Power Plan is reliable. Therefore, EPA must rely on Regional Transmission Organizations and utilities to determine what changes to generation mix are feasible while still ensuring reliability of the electric grid.

iii. The EPA Asserts That it Intends for the Building Blocks to be Severable

The EPA states the following:

> *We consider our proposed findings of the BSER with respect to the various building blocks to be severable, such that in the event a court were to invalidate our finding with respect to any particular building block, we would find that the BSER consists of the remaining building blocks*. The state goals that would result from any combination of the building blocks can be computed from data included in the Goal Computation TSD and its appendices using the methodology described in the preamble and that TSD.[33] [Emphasis Added].

The EPA should clarify its position noted above. If the EPA's statement means that an emissions limit will be recalculated with the remaining building blocks and, as a result, the

[32] Southwest Power Pool Comments, October 9, 2014, pp. 4-6.
[33] 79 Fed. Reg. at 34892.

emissions limit will increase, the KCC is in agreement. However, if the EPA's statement means that the emissions limit is in essence fixed and will not change, the KCC is greatly concerned regarding the inequity and apparent unlawfulness of such a position.

iv. The EPA's Proposed Timelines for Compliance With the Clean Power Plan are Not Possible

The EPA's Clean Power Plan requires compliance within ten to fifteen years. This deadline is not achievable. Once the EPA issues its final rules in June of 2015, Kansas will need at least two years to conclude a stakeholder process to determine the following:

- KCC jurisdictional utilities and the SPP must individually and jointly run re-dispatch models to determine the lowest-cost option(s) and the most viable option(s) for compliance. These re-dispatch model runs will be highly complex and will most likely involve hundreds of discrete scenarios. Because of the complexities involved, the KCC estimates that it will take six months to a year to run the re-dispatch models.
- The KCC must then review and analyze the re-dispatch scenario results and conduct stakeholder meetings and hearings in order to determine the best course(s) of action.
- Once the Commission has issued an Order approving the new generation mix for its jurisdictional utilities, the utilities can work with KDHE to develop a compliance plan or plans.

Because of the complexities involved and the fact that generation mix is jurisdictional to the KCC; the KCC cannot be rushed into a quick decision on these issues by an excessively aggressive schedule set by the EPA.

The EPA has demonstrated an understandable but serious lack of understanding of the electrical system, which is outside its area of expertise. For example, the EPA discusses its proposed changes to the generation mix in broad simplistic language such as "All of these measures are components of a 'system of emission reduction' for the affected EGUs because they either improve the carbon intensity of the affected EGUs in generating electricity or, because of the integrated nature of the electricity grid and the fungibility of electricity and electricity services, they displace or avoid the need for generation from those sources and thereby reduce the emissions from those sources."[34] The EPA is under the mistaken belief that

[34] Legal Memorandum, p. 71.

the mix of electric generation can simply be modified over a 10 to 15 year period because electricity is "fungible." The EPA does not recognize the fact that the current electric grid has developed over the past 100 plus years and the modern grid has expanded over the past 40 plus years.

SPP's comments on the CPP note the following:

> Furthermore, there has been inadequate time to perform analysis of the technical feasibility of each of the four building blocks proposed within the CPP. To be clear, if any or all of the four building blocks are not feasible, application of a goal that assumes they are will have untold consequences on the reliability of the bulk electric system. For example, if the projected EGU retirements occur and a 70% capacity factor from natural gas combined cycle generating units, as assumed in CPP building block 2, is not feasible, the reliability implications of this improper assumption will be very significant and serious. *Additional time to evaluate the impact of these and other potential concerns on reliability of the bulk electric system is warranted before imposing a final rule that is not properly considerate of potential threats to the reliability of the bulk electric system.*
>
> *SPP is also concerned with the timing proposed for compliance with the CPP*. Within the SPP region, the timing associated with CPP compliance is problematic at best. Based on SPP's review of the proposed CPP, EPA has considered neither the cost nor the time required to plan and construct electric transmission facilities. In the SPP region, as much as eight and a half years to study, plan for and construct new transmission facilities has been required. *Compliance with the proposed CPP is impossible due to the transmission expansion that will be required and the time it takes to complete the required transmission expansion*. In addition to more time being needed to develop plans for and construction of necessary infrastructure, a "reliability safety valve", as suggested by the ISO/RTO Council prior to release of the proposed CPP, should be incorporated into the final rule. Such an approach would require that state plans include a process to evaluate electric system reliability issues resulting from implementation of the state plan and require mitigation when needed.
>
> *Furthermore, while the proposed CPP provides states with significant flexibility for compliance, EPA has not provided state air quality and economic regulators with sufficient time to take advantage of this flexibility.* As a consequence, SPP anticipates there will be few, if any, submitted compliance plans that reflect the regional nature of transmission planning, wholesale energy markets or, in the SPP region, transmission cost allocation. None of these issues are currently addressed on a state-specific basis within SPP, but rather are addressed regionally in a

> transparent environment where state boundaries are not acknowledged since the grid crosses city, county and state boundaries.[35] [Emphasis Added]. [Cites Omitted].

Generation resources are located very specifically to accommodate load requirements and balance the system. Closing coal plants or significantly reducing their output will require thorough engineering studies to determine what type of new generation – nuclear, NGCC, or renewable – should be selected, the location of the new generation, availability of fuel, and transmission constraints. New generation resources and other required infrastructure cannot be designed, constructed, and integrated in 10 to 15 years.

v. Increased Reliance on Gas-Fired Combined Cycle Generation Will Increase the Cost of Natural Gas and Could Potentially Create Reliability Issues

Natural gas is one of the most price volatile commodities in existence. The supply and demand pressures on natural gas are immense, and a transition is under way to make natural gas the fuel of choice for virtually everything. Vehicles are being converted, or built new, to use compressed natural gas, more natural gas-fired generation plants are built every year, homes use natural gas as a heating source, liquid natural gas is being exported to other countries, and manufacturing processes are using more natural gas. All of these factors will place upward pressure on the price of natural gas as the recently discovered new domestic gas supply reserves mature and decline. The EPA's reliance on natural gas-fired combined cycle (NGCC) generation in its Clean Power Plan will increase the use of natural gas exponentially as states build additional NGCC plants. This issue will be compounded by the fact that the Clean Power Plan includes the non-dispatchable resources of renewable energy and DSM energy efficiency, which will force states to build and utilize NGCC units as a replacement for base-load coal-fired units in order to ensure grid reliability.

The EPA has recognized some challenges to increasing NGCC use in its Clean Power Plan. The challenges noted by the EPA are primarily infrastructure and gas supply. However, the EPA makes no accommodations in its plan for such limitations. The EPA apparently assumes that natural gas pipeline capacity will be expanded and supply will be sufficient in all

[35] Southwest Power Pool Comments, October 9, 2014, pp. 8-9.

areas of country to meet the electric sector's needs. The EPA's assumptions ignore the complex interrelationship between the electric sector and natural gas supply and pipeline capacity. Moreover, the EPA is relying on the natural gas supply and pipeline industries – which are not subject to the Clean Power Plan – to commit to meeting the electric sectors requirements under the Clean Power Plan on the same timeline as that set by the EPA.

To illustrate current gas supply constraints, Kansas City Power & Light Company has noted in certain presentations that there is currently not sufficient gas capacity to support an NGCC plant in Missouri during the winter heating season.[36] Additionally, Westar Energy was unable to acquire natural gas at any price for a period of time this past winter at its Spring Creek generation facility in Oklahoma. The reason Westar could not acquire natural gas was due to the severely cold weather and a lack of sufficient capacity to transport additional supplies of natural gas.

The issues discussed here demonstrate the EPA's lack of knowledge and expertise of electric generation reliability and a lack of foresight as to the practical consequences of its proposed plan. Specifically, electric utilities will be forced to shift to NGCC generation for reliability purposes. This will, in essence, shift base-load generation from a reliance on coal in a large number of regions to gas-fired generation throughout the entire country. The issue is compounded further by the fact that reliance on a single source of fuel is, in and of itself, a reliability concern. A basic tenet of electric system reliability is to use a diversified fuel mix in order to mitigate volatility in supply and pricing. Forcing the entire country to rely on gas-fired generation as a base load fuel is an exceptionally bad energy policy.

Prior to the approval of any state compliance plans, a study should be undertaken that evaluates the impact on: (1) the supply and demand of natural gas; (2) natural gas prices; (3) current gas transmission pipelines; and (4) the need and timeline for constructing new gas transmission pipelines. This study should be conducted by the Federal Energy Regulatory Commission with input solicited from states.

[36] In the Matter of an Investigation of the Cost to Missouri's Eletric Utilities Resulting from Compliance with Federal Environmental Regulations, File No. EW-2012-0065, August 18, 2014 Staff Workshop, Kansas City Power & Light (KCP&L) And KCP&L Greater Missouri Operations Company (GMO) Response to Order Directing Response to Certain Questions, p. 4.

vi. The Clean Power Plan Relies Heavily on Shifting the Generation Mix From Coal-Fired to Renewable Generation Resources and Demand Side Management, Which Creates Significant Reliability Concerns

The EPA uses renewable resources as one of its building blocks to reduce the generation related to coal-fired EGUs. The EPA's use of renewable energy as a building block is highly problematic because renewable energy is not a dispatchable resource. Thus, renewable generation cannot be substituted for traditional dispatchable resources on a MW for MW basis. In addition, the EPA's BSER effectively substitutes non-dispatchable renewable resources for base load coal units. While some level of renewable resources is appropriate, renewable resources cannot provide base load generation or reliability to the grid and cannot be the sole substitute for coal-fired units.

Each type of generation resource is able to provide and/or require different grid services. Additional variable resources – such as wind generation – will lead to increased cycling of fossil units, which will decrease their efficiency, which will lead to an increase in CO_2 emissions. There are also technical challenges to integrating and managing large quantities of renewable generation into the transmission and distribution system, which will be compounded as the level of renewable energy grows. These technical challenges will constrain the ability of renewables to replace coal plant generation. In addition, because renewables require additional dispatchable generation (typically gas-fired CTs) for reliability purposes, the combination will be significantly more expensive than the existing coal plants.

The EPA's Clean Power Plan relies far too heavily on renewable generation resources and DSM energy efficiency programs. As noted previously, neither renewable generation resources nor DSM energy efficiency programs are dispatchable. Therefore, the EPA is requiring states to significantly alter their respective generation mixes by incorporating substantial non-dispatchable resources, which creates significant concerns regarding the reliability of the electrical system. The EPA's reliance on renewables and DSM energy efficiency is another example of the EPA's lack of knowledge and experience in matters related to generation dispatch.

As noted previously, the Staff of the KCC will not recommend, under any circumstances, approval of any state compliance plan that may result in an unreliable electrical system. The unstudied incorporation of renewable generation resources and DSM energy efficiency as major components of generation mix creates an unreliable system. Currently, renewable resources, such as wind, are included in Kansas's generation mix, but the intermittent nature of wind requires load-following generation resources to balance the wind resources with system demands and wind is often curtailed because wind peak generation hours generally are during system off-peak hours. Therefore, the integration of too much wind into the electrical system will create reliability issues.

The use of DSM energy efficency as a major component of the generation mix also creates reliability concerns. As noted previously, DSM energy efficiency is not dispatchable. In fact, DSM energy efficiency cannot even be measured except by rough estimation of how much load growth is reduced by such programs. Therefore, forecasting the impact of DSM energy efficiency programs cannot be included in dispatch models. Only the indirect impact of DSM energy efficiency programs on overall load growth forecasts can be used for future generation load.

b. The Carbon Limits Set for Kansas will be Exorbitantly Expensive

The KCC estimates a base case that the EPA's CPP as proposed would cost the state of Kansas $8.75 billion with a possible range of costs between $5 billion and $15 billion. The corresponding increase in rates is between 10% and 30% over 13 years. The range provided is due to the fact that fact specific re-dispatch modeling will need to be undertaken to provide more precise estimates. Therefore, due to the uncertainty of exactly what infrastructure will be needed and the risk that costs will be higher than expected, the KCC has provided a conservative range of costs. The details of the KCC's base estimate of $8.75 billion are provided below.

i. SPP's Reliability Impact Assessment Indicates Significant New Investment in Generation Assets will be Required

The SPP's comments note that SPP performed an evaluation of the impacts of EPA's projected EGU retirements on SPP's reserve margins and determined that, "These anticipated

reserve margins represent a total generation capacity deficiency in the SPP region of approximately 4,600 MW in 2020 and 10,100 MW in 2024."[37]

The KCC estimates that the cost to Kansas associated with the additional generation resources will be $3.25 billion. This estimate is based on SPP's Assumed Generating Capacity Additions in SPP's table.[38] The KCC also estimates an additional $1 billion in new infrastructure to support water and/or natural gas pipeline capacity. The KCC is recommending that DSM energy efficiency be excluded from the emissions standard. However, should the EPA mandate such, the KCC estimates the cost of including DSM energy efficiency programs to be approximately $2.5 billion.

ii. SPP's Reliability Impact Assessment Indicates Significant New Investment in Transmission Assets will be Required

The SPP's comments note that SPP performed an evaluation of the impacts of EPA's projected EGU retirements on SPP's reserve margins and determined that, "even with generation capacity added to replace the assumed EGU retirements, additional transmission infrastructure will be needed to maintain reliable operation of the grid."[39] As a result, the KCC is estimating $2 billion in additional transmission costs allocated to Kansas ratepayers as a result of the CPP.

iii. The Clean Power Plan Will Lead to Environmental Dispatch of the Electrical System Rather Than Economic Dispatch

The electrical system is currently dispatched on an economic basis. This means that the lowest cost generation units are dispatched first, followed by the units with the next highest marginal cost. As proposed, the CPP will lead to uneconomic dispatch because surviving coal-fired units (*i.e.*, coal-fired units that are not forced to retire under the Clean Power Plan) will be used much less in order to meet the aggressive CO_2 emissions limits proposed by the EPA. Therefore, higher cost units such as NGCC will be dispatched more than the lower cost coal units, creating an environmental dispatch rather than an economic dispatch. From, the KCC's

[37] Southwest Power Pool Comments, October 9, 2014, p. 7.
[38] SPP Comments, Figure 2. The estimated costs consist of an NGCC 800 MW unit at a cost of approximately $800 million, approximately 1,400 MWs on new combustion turbines at a cost of $850 million, and new wind generation of 800 MWs at a cost of $1.6 billion.
[39] *Id.*, p. 5

review of the EPA's evaluation of the cost of the CPP, it does not appear the EPA has factored in the additional cost of uneconomic dispatch.

SPP notes:

> *The proposed CPP will change the market dispatch of generating units by reducing the availability of the most economic generating resources. Such a shift will cause higher market clearing prices in the SPP region resulting in material adverse economic impacts on SPP customers*. The proposed CPP will increase reliance on renewables and generators fueled by natural gas, yet there has been no evaluation of additional operating and planning measures needed to support integration of significant additional renewables and of natural gas availability required to fuel the increased number of gas burning units in the SPP region. While SPP's members will likely dramatically increase their reliance on wind generation within the SPP region to meet carbon emission goals under the proposed CPP, a proportional increase in gas burning generators will be necessary during times when wind resources are not available to maintain reliable energy supplies and minimum required planning reserves.[40] [Emphasis Added].

SPP's analysis confirms the KCC's analysis. That is, the cost of power will be significantly higher in the SPP Integrated Market.

c. The Clean Power Plan Does Not Recognize Investments That States and Power Companies Are Already Making

i. The Emission Guideline for Kansas Will Result in Stranded Costs for Existing Coal Generation Resources

The state of Kansas has spent in excess of $3 billion on environmental compliance projects for our coal-fired generation fleet, and these projects were approved by the EPA under state implementation plan(s) (SIP). For the EPA to now assert, under its Clean Power Plan, that the generation from Kansas's coal-fired fleet must be significantly reduced or eliminated results in significant stranded costs to Kanas ratepayers. That is, Kansas ratepayers must continue to pay for coal-fired generation resources (including the recent environmental upgrades) that will either be curtailed or forced to retire early in order to meet the EPA's overly-aggressive

[40] Southwest Power Pool Comments, October 9, 2014, p. 9.

emissions standards as well as pay for the new generation, transmission, and DSM energy efficiency costs required under the Clean Power Plan.

As noted by the EPA, CAA section 111(d)(1) grants states the authority, in applying a standard of performance to particular sources, to take into account the source's remaining useful life. It is unclear how the EPA factored the remaining useful life of coal-fired generation assets into its IPM model. However, it is clear the EPA did not include stranded costs in its economic analysis. This omission means the EPA's projected compliance costs are significantly understated and erroneous. These are real and identifiable costs that EPA either doesn't fully understand or chooses to ignore. The EPA also notes that the D.C. Circuit Court found BSER should be "expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way." Because stranded investments are excluded, the EPA's projected compliance costs are significantly understated and will be "exorbitantly" costly.

Because of the facts noted above, the EPA should grandfather (exclude) all of the Kansas coal-fired generation resources that have undergone environmental retrofits from the Clean Power Plan. This approach will recognize the remaining useful life of the individual plants, eliminate stranded costs, and provide fairness to carbon reduction goals. Kansas has completed, or is near completing, significant investments related to SIPs that were approved by the EPA. These SIPs required over $3 billion in investments by Kansas utilities to meet EPA emissions guidelines on Kansas coal plants. For the EPA to now require that the generation from the same coal plants be significantly reduced or eliminated may constitute a "takings" by the EPA – either from the utilities who invested in the upgrades or the citizens who would be tasked with paying for the investments. It is inherently unfair and extremely poor regulatory policy to require significant expenditures to improve the emissions of coal plants and then change the regulatory paradigm to eliminate coal-fired generation without regard to the useful remaining life of the EGUs.

Furthermore, the KCC is immensely troubled by EPA's proposal that the remaining useful life of affected EGU's should have no relevance to state emission performance goals. In reading EPA's comments, the agency speaks flippantly in describing these serious considerations. For instance, EPA remarks:

> Even if relief is due a particular facility, the state has an available toolbox of emission reduction methods that it can use to develop a section 111(d) plan that meets its emissions performance goal on time. The EPA therefore proposes that the remaining useful life of affected EGUs, and the other facility-specific factors identified in the existing implementing regulations, should not be considered as a basis for adjusting a state emission performance goal or for relieving a state of its obligation to develop and submit an approvable plan that achieves that goal on time. [41]

EPA's statement is troubling because it brushes off empirical real-world cost concerns with a nebulous reference to "toolbox of emission reduction methods." More troubling, EPA disregards the plain and explicit language of the CAA section 111(d) and suggests a bias toward shuttering coal-fired EGUs without consideration of costs. As noted previously, EPA states the following:

> Under the EPA's implementing regulations for CAA section 111(d)(1), the EPA must determine the best system of emission reduction for the sources, and then apply that best system to determine the required level of emissions or emission reduction, which the regulations refer to as the "emissions guideline." Under section 111(d) (1), the states must then adopt state plans that establish standards of performance and measures that implement and enforce those standards. In the case of an air pollutant that EPA has determined may cause or contribute to endangerment of public health, the states' standards of performance must not be less stringent than the EPA's emission guideline. *CAA section 111(d) (1) grants states the authority, in applying a standard of performance to particular sources, to take into account the source's remaining useful life or other factors*.[42] [Emphasis Added].

The KCC asserts that the EPA cannot disregard or manipulate the law simply to advance a predetermined agenda to de-rate or shutter coal-fired EGUs without consideration of costs. The law is clear that the remaining useful life of EGUs must be taken into account. EPA cannot and should not ignore this factor.

ii. The Emission Guideline for Kansas Will Result in Stranded Costs for Existing Transmission Assets

The SPP region has spent in excess of $8 billion on transmission investments, of which Kansas electric customers are paying for approximately 20 percent. Through 2014, new

[41] 79 Fed Reg. at 34926.
[42] Legal Memorandum, pp. 3-4.

transmission costs proposed to be allocated to Kansas were approximately $1.6 billion. These transmission investments are based on existing generation resources within the SPP footprint. Many of these investments may not have been needed based on where SPP's projected new 10,100 MWs of generation are located. However, Kansas's ratepayers will still be required to pay for these investments regardless of whether they are needed in the future.

VI. Other Concerns

a. The EPA's Use of a State-Wide Emissions Guideline Creates Cross-Subsidy Issues between Ratepayers

Under utility regulatory theory, rates are set using a cost-causation principle whereby costs are assigned to each class of customer (e.g., residential, commercial, and industrial) in accordance with costs created by the class. Anytime one class of customer pays more than its respective allocated costs, the class is cross-subsidizing other classes. The KCC strives to meet this principle each time it sets rates for a jurisdictional utility.

The EPA's proposed Clean Power Plan sets an emissions guideline for the State of Kansas, rather than the specific affected EGUs. By doing so, the EPA has created a near certainty that legally-troublesome cross-subsidies will occur between ratepayers of the various utilities in the state. As noted above, the KCC can address cross-subsidy issues within the context of setting rates for a single utility. However, the EPA's state-wide emissions guideline will create cross-subsidy issues between the customers of *separate utilities*. The EPA's Clean Power Plan identifies the specific utilities who own the affected EGUs. However, the plan does not address how a state should determine which utilities will build new NGCC or renewable energy, nor does the plan identify what DSM energy efficiency programs should be used. Rather, the EPA oversimplifies the issues by determining that states have the "flexibility" to determine how to meet the emissions guideline. This means that the State of Kansas must determine which utility builds new generation resources and what DSM energy efficiency programs should be implemented by each utility. This process will be complex and will result in cross-subsidization because:

- The KCC does not have statutory authority to allocate the costs associated with the Clean Power Plan to all ratepayers in Kansas because a large number of utilities are not rate-regulated by the KCC. Therefore, if a non-jurisdictional utility does not agree to a

compliance plan, the KCC would be forced to require jurisdictional utilities to take additional measures to meet the overall emissions guideline. This results in KCC jurisdictional ratepayers subsidizing the costs of compliance for non-jurisdictional ratepayers.

- The least-cost option of compliance for one utility may not be the least-cost option for another utility. Additionally, the least-cost option for all, or most utilities individually, may not be the option required to achieve the emissions goal. These facts may require a utility, or all utilities, to incur costs above their respective least-cost option in order to ensure compliance with a state-wide emissions goal.

- From a regulatory theory perspective, the KCC balances the interests of utilities and ratepayers. Therefore, if lower CO_2 emissions benefit all of the citizens of Kansas, from a ratemaking perspective, all citizens should pay their proportionate share. However, no such mechanism to accomplish this exists in Kansas today. As noted above, one utility may be forced to subsidize another utility by incurring more than its proportionate share of compliance costs; however, the KCC has no authority to require other utilities' ratepayers to pay a portion of another utility's investments (compliance costs). To accomplish such would require new statutory authority from the Kansas legislature.

b. The EPA's State-Wide Emissions Guideline in Conjunction with the Multi-State Option Creates Cross-Subsidy Issues Between States as Well as Reliability Issues

As indicated above, the EPA's proposed Clean Power Plan sets an emissions guideline for the State of Kansas rather than the specific affected EGUs. By doing so, the EPA has created a high likelihood that cross-subsidization will occur between ratepayers of the utilities in the state. This subsidy concern carries over to the EPA's proposed multi-state option. For example, some states – such as Nebraska and Oklahoma – have already announced that certain coal plants will be retired. By doing so, the overall cost for power in the SPP Integrated Market will go up because natural gas-fired generation is more expensive than coal-fired generation, and there will be less coal-fired generation within the SPP region. This means that, while Kansas coal plants will keep the average cost of power lower in the SPP region by continuing to provide low-cost coal-fired generation, the average cost for Kansas consumers will still increase as other states move to a more expensive generation mix. This is a clear subsidy paid by Kansas customers, and this subsidy will only be exacerbated by the EPA's Clean Power Plan because Kansas' coal units have been retrofitted with pollution controls and may remain in service for an extended

period. The EPA's multi-state option also raises additional concerns about how the least-cost option for Kansas can be determined or achieved when the compliance plan must fit within region-wide reliability requirements. In addition, the EPA does not define how a determination would be made as to which states should be held accountable should the multi-state plan fail to achieve the region's target emission rate. This fact raises additional concerns regarding cross-subsidy costs between states if one or a several states must modify its respective generation in order to ensure compliance for a non-conforming state(s).

c. The EPA's Option to Use a Market-Based Approach Is Not Feasible

The EPA encourages the use of a market-based approach throughout the CPP.[43] As noted earlier, SPP has forecasted a shortage of 10,100 MWs by 2024. This shortage of capacity will require immediate planning to determine which existing units are still viable and will assuredly require new NGCC units to run as base load units. These new base load units will have an expected useful life in excess of 30 to 40 years, which will extend beyond the EPA's current emissions limit compliance date of 2030.

Because the CPP, as proposed, creates significant reliability issues within Kansas and the SPP region, the KCC is concerned that a market-based approach will interject too much uncertainty and risk into the planning process used to determine new generation and transmission projects. In order to make long-lived decisions on new generation and transmission investments, utilities must first evaluate forecasted cost to determine the lowest cost investment alternative that meets long-term reliability and growth forecasts. Once the least cost option is identified, a utility evaluates the likelihood that their long-lived investment will be fully recovered (in general, utilities require a high degree of certainty in advance that their long-lived investment will be fully recovered before they will invest in a project). A market-based approach – such as Cap and Trade – creates a high-degree of long-term uncertainty that is extremely difficult or impossible to forecast.[44] For example, Cap and Trade programs create long-term uncertainty because:

[43] 79 Fed Reg. at 34848, 34855, and 34858.

[44] Lawrence Goulder and Andrew Schein, "Carbon Taxes versus Cap and Trade: A Critical Review," Climate Change Economics, Vol. 4, No. 3 (August 2013). The authors note that cap & trade mechanisms have had significant price volatility in the past. "NO_X allowance prices rose from about $400 per ton to an average in the year 2000 of over $40,000 per ton, with the average allowance price reaching $70,000 in the peak month of 2000." The

- The EPA has set emissions limits with a final compliance date of 2030, or in 15 years. Therefore, utilities are at risk that the long-lived generation and transmission investments they make to meet the 2030 compliance deadline will be uneconomic after 2030, should the EPA further reduce emission limits after 2030. This situation would lead to the need for additional new generation and transmission investments, stranded costs, and potential reliability issues post-2030.

- Assuming an emission limit is fixed into perpetuity, Cap and Trade programs provide certainty about the quantity of emissions allowable. However, Cap and Trade programs create a high-degree of uncertainty regarding the cost of achieving emission reductions. That is, the costs of an emission allowance would be market-based and subject to potentially significant price volatility. It is also possible that the market price of emission limits could escalate to a high enough level that certain EGUs would no longer be economically viable. Thus, it's possible that EGUs could become uneconomic overnight. Again, this situation could lead to the need for new generation and transmission investment, stranded costs, and reliability issues.

- If certain EGUs become uneconomic due to the price of emission allowances, but are required to continue to operate for reliability purposes, the cost of electricity will be become exorbitantly expensive.

- Cap and Trade programs are subject to changes in the market structure. These changes can be significant and are usually mandated by policy makers to force the market to change its behavior in order to meet the expectations and goals of policy makers.

The KCC does not believe that a market-based approach – such as a Cap and Trade Program – is an appropriate mechanism to achieve the significant emission reductions necessary under the CPP, as proposed. Market-based programs simply interject too much uncertainty and risk into an already uncertain future for electricity generation.

d. The EPA's Clean Power Plan is Essentially a Federally Mandated Energy Policy

The EPA's CPP is essentially a federally mandated energy policy. EPA notes in the CPP that states will be making energy policy goals when deciding on compliance plans. Specifically, EPA states:

> Many of the decisions that states will make while developing compliance approaches *are fundamentally state decisions that will have impacts on issues important to the state, including cost to consumers and broader energy policy goals, but will not impact overall emission performance*. Some decisions, however, may impact emission performance and

addition of emissions price volatility on top of fuel price volatility will make investments in long lived infrastructure assets even more difficult.

> exemplify the kinds of decisions and approaches states may be interested in pursuing.[45] [Emphasis Added].

While the EPA's comments noted above are unclear as to the latitude it believes states should have in deciding their own energy policies, it can be read to mean that the EPA is setting an energy policy because any compliance plan must impact overall emission performance set by the EPA.

The EPA selection of the BSER that includes building blocks that shift the generation of electricity from coal-fired generation to NGCC, renewable energy resources, and DSM energy efficiency is effectively an energy policy that relies on natural gas, wind, solar, and DSM energy efficiency as the primary sources for electrical generation. Therefore, not only has the EPA asserted primacy over state PUCs in determining generation mix, it has also asserted authority over state energy policy. The KCC asserts that both generation mix and energy policies are outside the scope of the EPA's authority.

[45] *Id*. at p. 34924.

KCC Exhibit 1
KCC's Calculation of the Kansas Goal (lb/MWh)

Coal Rate (lb/MWh)	O/G rate (lb/MWh)	Hist Coal Gen (MWh)	Historic OG steam Gen. (MWh)	Nuclear Generation "At Risk" (MWh)	2029 Existing and Incremental Renewable Energy	2029 Energy Efficiency Potential (% of 2012 Sales + Line Loss)	**Final Goal (2030 and thereafter) (lb/MWh)**
Step 1 (2012 Data for Fossil Sources)							
2,364	1,560	27,979,593	1,632,997				**2,320**
Step 2 (Heat Rate Improvement)							
2,364	1,560	27,979,593	1,632,997				**2,320**
Step 3a & 3b (Redispatch)							
2,364	1,560	27,979,593	1,632,997				**2,320**
Step 4a Nuclear							
2,364	1,560	27,979,593	1,632,997	0			**2,320**
Step 4b Renewable (MWh)							
2,364	1,560	27,979,593	1,632,997	0	5,610,780		**1,950**
Step 5 (Demand Side EE - % of avoided MWh sales)							
2,364	1,560	27,979,593	1,632,997	0	5,610,780	0.00%	**1,950**
Step 6&7 (State Goal Phase I & II (lbs/MWh))							
2,364	1,560	27,979,593	1,632,997	0	5,610,780	0.00%	**1,950**